Textile World
Established 1868
With which are combined
TEXTILES and POSSELT'S TEXTILE JOURNAL

334 Fourth Ave., at 25th St. NEW YORK, AUGUST 7, 1926 VOL. LXX, NO. 6

Scheduling, Dispatching and Time Keeping

Textile Mill Accounting Expedited by Use of Punched Cards and Mechanical Tabulators—Great Present Day Need Is That Mill Be Run with Close Control by Selling Organization—Helpful for Profitable Operation—Time Keeping and Payroll Plan Gives Part of Cost Data

*By Floyd H. Rowland**

MUCH attention in the textile industry has been concentrated on improving the processes of manufacture, in order to turn out a better product at the least possible cost consistent with quality. In past years, it has not been necessary to pay so much attention to the elements of time consumed in manufacture, as the market readily absorbed the merchandise produced, and supplied manufacturers with advance orders which could be turned out in a more or less leisurely fashion.

The situation today, presents an entirely different picture because of the growing tendency to buy only for immediate requirements (so-called "from hand to mouth" buying). This naturally restricts the placing of advance orders. In other words the retailer orders his merchandise in small quantities and demands comparatively quick delivery.

The answer to this new method of procedure which the manufacturer must be prepared to perform is that his goods must be produced with all possible speed if they are to be salable at all and he must to a large extent not manufacture too far in advance of the actual sales requirements, unless he desires to run the risk of being caught with merchandise for which he cannot find a ready market.

This turn of affairs brings the manufacturer face to face with the imperative necessity of putting his house in order and of providing records which will enable him to determine at all times the capacity of his plants and to utilize this capacity to the utmost degree.

In an article printed in the May 1 issue of TEXTILE WORLD, a general plan was outlined for the handling of textile records, utilizing mechanical tabulating equipment. In this article we will discuss records dealing with the control of the activities of various working departments, the dispatching of work and the compensation of employes.

Scheduling and Dispatching

The term scheduling as used in this article refers to the determination of the time necessary for each operation of an order, time required for the entire order, and finally the coordination of the time required for each particular order with the other orders previously placed in process. Dispatching, on the other hand, as a function may be defined as the coordination of materials, supplies, labor, machines, tools and instructions through the issuance of orders in accordance with the pre-determined production schedules. An immense amount of detail must be handled if the mill manager is to be kept posted as to every phase of activity throughout the mill, and to be able to secure the relation of this activity to his schedules. The use of tabulating equipment has been found to be a great advantage in the handling of this data economically and in time to be of use for scheduling purposes.

The several illustrations included have been taken from the broad silk industry and are general enough to indicate the application of tabulating equipment to the other branches of the textile industry. Even within the broad silk industry, there are many variations in the performance of scheduling and dispatching functions due to the size of individual plants and the manner of organization. Scheduling is obviously less complicated in a one-mill concern than would be the case of a corporation owning a number of mills controlled from one central office. The examples have been taken from this more complicated type.

The first part of this article, referring to the scheduling and dispatching of orders, presents ways and means which a mill manager will find valuable in expanding his knowledge of his plant's immediate activities. The author, Floyd H. Rowland, whose experience has brought him in close contact with the largest silk manufacturing and selling organizations in the country, is of the belief that manufacturing must be dictated by the central office, not by the mill superintendent, if it is to be successful in these times of hand-to-mouth buying and quick turns of fashion. The essential reports to permit central office control are explained.

The latter part of this article gives a practical plan for time-keeping which permits a close check on a mill's efficiency. Later articles in this series by Mr. Rowland will cover control of goods in process, inventory and sales control and cost finding.

Selling Office Must Run Mill

It is generally recognized that scheduling correctly performed leads to a reduction of material stock, reduces idle time, increases turn-over and enables the mill manager to make deliveries in accordance with his promises. Despite this fact, however, it is astonishing to see how little actual thought is given to the details of scheduling in many textile companies. When a new mill order has been sent to the mill and brings forth from the superintendent a guess that the necessary material is probably not at hand, when the superintendent informs the central office that he is running out of weaving orders, when a production status report is to be requested from the mill, there is ample proof that the functions of scheduling and dispatching are not organized. It is a common occurrence to find that mill superintendents are instructed to supply headquarters with reports as to the progress of each order. Some mills are also asked to send in periodically reports showing production status and future requirements. This performance to use a homely expression is like "putting the cart before the horse." Manufacturing today is not dictated by the mill superintendent, but is, as has been heretofore mentioned, entirely dependent on the market. The central office only has the necessary information for scheduling and must do so considering not only capacities of the various plants but also general production policies based on market requirements and executive decisions.

This method of operation has become a practice in textile companies largely due to the necessity for maintaining simple central office systems and in keeping schedules up to date. The use of tabulating equipment as explained in the following paragraphs supplies the central office with the necessary means for collecting and coordinating all of this data currently and effectively, thereby reducing scheduling to a relatively simple clerical function. In order to schedule properly production at central headquarters, three types of reports are desirable such as : (1) The production capacity, listing each type of machine, department and mill; (2) Production status report for follow up of individual qualities or pieces; (3) Status summary by type of machine showing available production.

Essential Reports

Fig. 1 shows the production status

PRODUCTION SUMMARY

MACHINE		ORDERS	IN PREPAR WORK	IN WEAVING	MACHINES			PRODUCTION HOURS						
WIDTH	TYPE				SCHEDULED	MOUNTED	INSTALLED	MONTH	1	2	3	4	5	6
50	1X1							COVERED						
								AVAILABLE						
30	1X1							COVERED						
								AVAILABLE						
50	2X1													

Fig. 1

*Of F. H. Rowland & Co., Industrial Engineers, New York.

ENGEO INC

ORDER Nº 1756 UNIT Nº 75 OPERATION Weaving QUALITY 7958

QUANTITY 1/2 MATERIAL 2/80 Organ Jap x1 2/80 Trans. Jap x

STD TIME .4/hr STD RATE .45¢ STD BURDEN 48¢ per hr

DATE	PRODUCTION ORDER	UNIT	QUALITY Nº	QUALITY DESCRIPTION	MATERIAL DESCRIPTION	MATERIAL QUANTITY	OPERATION	OPERATOR	MACHINE	TIME HRS	TIME MIN	TIME SECS	PAY AMOUNT	BURDEN AMOUNT	
2															2
3															3
4															4
5															5
6										FINISHING TIME					6
7															7
8										STARTING TIME					8
9															9

Fig. 2

summary which can be used for control and scheduling of new production. In the first article of this series a type of production status report showing production by quality was illustrated. The method of compilation of the figures in this latter report will be discussed subsequently under "Work in Process Control." The reports mentioned or similar ones are obtained either by periodical summarization or through the maintenance of a perpetual record in the form of a control board or other production record kept up to date by posting information as received from the mills. In either case, tabulating cards can be used to advantage. The data required for periodical summarization may be obtained from the status report illustrated in the former article. Control boards or control records can speedily be brought up-to-date by summarization of the labor cards, one of which is illustrated as Fig. 2. In order to obtain this summarization the labor cards will be sorted by operation of machines automatically added, and totals printed by the tabulator on a report which will be used for posting control boards or records.

Much unnecessary work is spared the mill executive by following the number of exceptions, under which number the attention of the executive is called to only those items which are not proceeding in accordance with the schedule. It is one of the duties of the clerk in charge of scheduling and dispatching to inform the manager of the planning departments of all cases when the mills deviate from a schedule. He will be notified also when orders are necessary, in time to place these orders in work. When new production orders are received in the planning department, the manager enters the desired mill distribution and delivery dates and refers it to the schedule clerk. If the order cannot be entered as indicated, the revised distribution must be submitted to the manager for approval. All accepted orders are posted to the schedules immediately and the actual production orders prepared following these operations. Labor tickets illustrated as Fig. 2 are made out at headquarters for each operation for the necessary quantities.

Question will arise at this point as to the desirability of preparing tabulating cards for use as material requisition particularly in view of the fact that such cards could show information necessary for the posting of material records. The answer to this question depends upon the frequency and the amount of one material issued at one time. It is true that these issues are not in most cases frequent enough in broad silk mills to warrant the use of tabulating cards for material summarization, especially as material records do not permit the accumulation of several days material requisitions. Where this condition is true the material requisitions will be made out on accounting forms posted to material records. Production order, labor tabulating cards, material requisitions, and general instructions are then turned over to the dispatch clerk at headquarters. His duties and those of the unit dispatch clerk are best indicated by the chart illustrated as Fig. 3. Space has been provided at the top of the labor cards (Fig. 2) to show all of the necessary information such as, order number, unit number, (warp number, piece number, etc.) operation, quality, quantity, (piece, length, ends, picks, etc.) material acquired, standard time of operation, standard labor rate, and burden rate. This information may be placed on the card by means of a multi-colored press, multigraph, or addressograph or by rubber stamp. Space is reserved for recording starting and finishing time by job recorder or by hand. The column heading shows the information which is to be punched in the card and can therefore be automatically summarized and tabulated. Special cards will be issued for recording special rates, extras, etc., as may be needed; for example, in the winding or warping department for two material runs. Other cards will be issued to record idle time and the reasons for this idle time.

The clerk in the central dispatch forwards the material requisition to the central material stores which supply the mills with the necessary material. The production order, the mill material requisitions and the labor cards are forwarded at the same time to the dispatch clerk located in the individual mill dispatch office.

As material is needed the dispatch clerk sends the material requisitions to the mill stores. The labor requisitions are placed in the dispatch board illustrated as Fig. 4 in sequence of dispatch number. These dispatch boards may be placed in the respective departments or preferably may be kept in the mill dispatch office.

Weaving Dispatch Board

The present methods in use in many mills would suggest that it is desirable to get the weaving dispatch board in the mill where the superintendent can exercise the close supervision over this most important operation. The cards are placed first in the pockets marked "Waiting for material" as a reminder that the material has to be followed up. Upon receipt of the material the cards are transferred to the pockets "Jobs Ahead." As soon as the job in process is completed the card in the "Jobs in Process" pocket is extracted, the finishing time stamped on and the next job card taken from the "Jobs Ahead" pocket after which the starting time is stamped on and the card then placed in the "Jobs in Process" pocket. The necessary information is written on the card for the completed job.

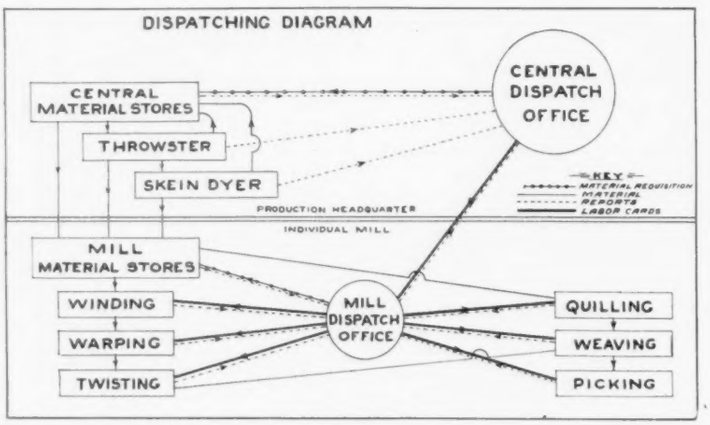


Fig. 3

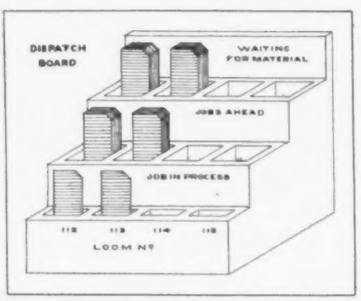


Fig. 4

Several different procedures are possible depending on the needs of the organization. In the larger mills where it is feasible to have tabulating equipment located out in the individual mills in addition to the use of this equipment in the central office, the labor cards will be punched in duplicate, one copy being kept in the mill and the other sent to the central dispatch office. In the smaller mills where it is not feasible to have the individual tabulating unit, the sheet record with a carbonized back is posted to the tabulating card when it is placed in the dispatch records, the sheet being kept at the mill while the copy is sent to the central dispatch office where it is punched.

Inasmuch as this discussion is based on the outline of a method by a corporation having several large mills, the methods discussed here follow the first plan providing for tabulating equipment in each mill. The labor card written at the mill is used by the dispatch clerk for posting material in production records. The card is then filed by operator's number. The use of these cards for payroll purposes will be discussed in a subsequent section. A labor card sent to the central dispatch office is punched and then sorted to material classification. The resulting tabulating reports will be used for the posting of material records after which the summary for qualities or machines of these same cards will be made to permit the necessary postings to the schedules. This card is then turned over to the cost department the procedure for which will be discussed in a subsequent article.

This description of the use of tabulating cards for scheduling and dispatching, while somewhat brief, should give a picture showing the simplification of this method over the written method, particularly in view of the fact that tabulating cards, once punched, require only sorting and tabulating for the numerous records needed in a silk mill as contrasted with the numerous forms now compiled manually by practically all silk companies. Manually written records offer as many possibilities of errors as the number of times the same information must be redistributed while the punched card method provides for the re-selection of the information automatically, insuring that all subsequent records will be made correctly.

Time Keeping and Payroll

In the previous paragraphs provision has been made for securing job time on those operations in which this information is desired. Before progressing into a detailed discussion as to the use of this data for the preparation of payroll, it seems desirable to outline the relation of these cards to the general time keeping system.

Time keeping may be divided into two functions. The first of these is

concerned with a control of the attendance of all employes and is, at least, partly exercised at the entrance to the mill. The second function is concerned with job time keeping for time workers and where desired for piece workers.

Value of Strict Time Control

General time keeping grows in importance with the size of the plant, but even in small plants money may be saved by a strict "in and out" control. It is rather remarkable to hear manufacturers voice the opinion that "in and out" time keeping control is of no great importance to piece workers in view of the fact that they are strictly paid for work done. This overlooks the important consideration that much operation of their overhead accumulates through the absence or inactivity of the employe. A strict time control makes for order and good attendance.

The exact method used for general time control varies with the size of the plant, the layout of the mill, the proportion between time and piece work, the payroll system, the number of shifts, and finally the type of employes. Regardless of the conditions, the time keeping utilized must be simple in order to avoid delays at the entrance and to permit its being understood by the average person, it has to be coordinated with the functions of the employment and payroll departments and it must permit economic compilation providing for the bringing to the attention of the management employes with bad attendance records. The coordination with the payroll department is important particularly as in the case of the time workers it provides the basis of remuneration. For all other employes it provides the best possible check due to the fact that payroll records are practically always kept with great accuracy irrespective of the carelessness which may be allowed to creep into other records.

Time Clocks in Departments

General time keeping can be obtained from regular "in and out" time cards. For the larger plants the use of tabulating cards will prove economical. It has not been found wise to have employes obtain and deliver their cards at the mill entrance, but to locate the time clocks in the respective departments with card racks alongside of them. The location of the clocks in the department has several advantages:

1. Elimination of crowding at the entrance in front of the time clock which results in making it difficult to ascertain that each employe stamps only one card.

2. The "in and out" time will more closely check with the daily job time.

3. The foreman and your department manager can easily obtain a report as to the employes at work.

The system to be described is applied to a large mill using standard cost system, which example has been chosen to permit the presentation of a specific case, and does not indicate that the application can be made only to this case. Design of the individual tabulating cards will naturally vary, according to the specific requirements of each individual mill. The relation of this system to the activities in the employment department will not be discussed here, beyond the fact that the cards shall be made out, changed or cancelled only upon notification of the employment department.

Stencil for Each Employe

The payroll department maintains an addressographed stencil with one stencil for each employe, this stencil showing the name of the employe, his number, the entrance through which he is admitted, his occupation, the department in which he is occupied and his shift as shown on the heading of the tabulating "in and out" cards illustrated as Fig. 5. This form is addressographed at each payroll period for each employe in addition to which addressographed heading this card shows the regular "in and out" record on the left side of the card for the use in the time recorder. The date of the last payroll period is punched in the right hand corner and the card provides space for punching, also the following information: employe's name written in letters, number, the account number for work performed, the attendance time taken from the time record on the left hand side, the quantity produced for day workers only and the pay roll amount. The items standard and actual time are obtained from job cards for piece workers as explained previously. This card is placed in a regular time card file with the number visible, or, where the quantity warrants it is placed in a regular visible index file with portable racks. Where the visible index file is used the cards may be placed in the pockets in the payroll office resulting in greater accuracy.

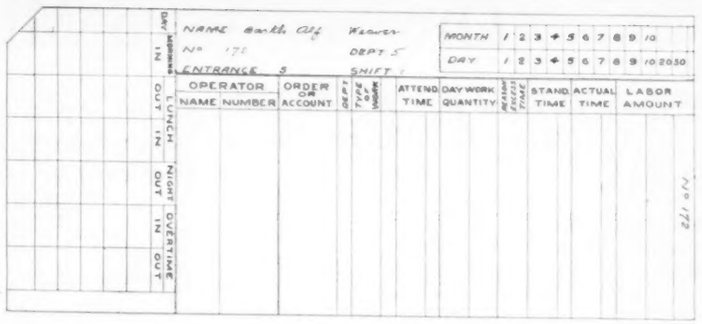


Fig. 5

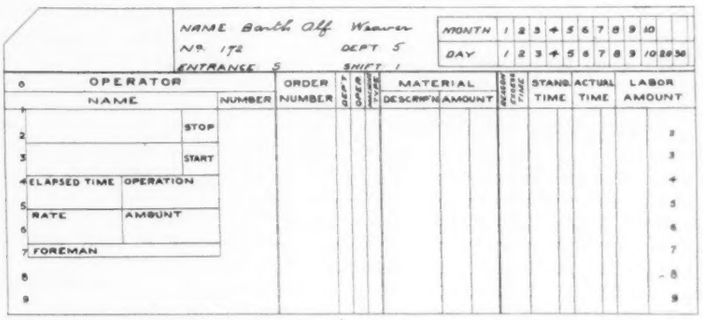


Fig. 6

Each employe upon entering the plant removes his card from the rack at the entrance and taking it to the department in which he is to work, stamps in the time and places his card in the departmental rack. A specific time (one hour for instance) is allowed to elapse for late employes before the gatekeeper sends the rack with the cards for absentees to the payroll department. The cards extracted are punched with the employe's name, number and department. From these cards a list of absentees is tabulated on the printing tabulator for each department, a copy of which is sent to the department as a check. Discrepancies are marked by the department manager or foreman, and a copy returned to the gatekeeper. This same operation is performed in the afternoon.

A second list is made of missing time cards after the shift has left the plant. The new card of different color is made out for each missing card and tabulated in the tabulator printer. A copy of this tabulation is sent to the department the following morning for explanation. All cards are collected at the end of the week, elapsed time figured, extent time work completely punched. It is then filed by department.

Making Up Payroll

In previous paragraphs a plan was outlined for the securing of job time from the labor tickets illustrated as Fig. 5 and Fig. 6. This later type of card has been included merely to show the many possibilities in design. Upon receipt of the job card, elapsed time is figured and extended at the standard rate to the time rack where a standard hour plan is in operation as a payroll system, the standard time is extended at the standard rate. The card is then completely punched, the payment of extras being recorded on a separate card. Job time cards are then filed by department. At the end of the payroll period after all "in and out" and job time cards have been collected, the job time cards for each department are extracted by employe's number. They are then automatically tabulated and totalled by employe on the printing tabulator, which secures a grand total for the department. The form used for this purpose is illustrated as Fig. 7 as a payroll report. It is made in two copies; one copy is provided with perforations, this card is sent to the department where each employe receives his slip with recommendation to check it and to report any discrepancies to his foreman immediately. The second copy of this

(Continued on page 103)

PAYROLL _____ REPORT

DEPARTMENT No 5 — PAYROLL ENDING 5/15/26 — SHEET #1A OF 72 SHEETS

OPERATOR NAME	NUMBER	OPERATION OR ACCOUNT	R or S	TYPE OF WORK	QUANTITY	STANDARD TIME	ACTUAL TIME	PAY AMOUNT	SIGNATURE
		64	5	92	62 4	24 0	25 5	12 00	
		64	5	92	28 4	17 5	18 5	8 75	
ADAMS JOHN	6				91	41 5	44 0	20 75	
		64	5	92	58 6	41 5	32 0	15 57	
		64	5	92	21 1	10 1	11 5	5 05	
ANDERSON CHAS	91				79 7	41 5	43 5	20 62	
		64	5	92	41 2	22 0	22 5	11 00	
		64	5	92	27 5	19 5	13 5	6 75	
BARTH ALF	172				58 7	35 5	36 0	17 75	

(EXAMINATION)

Fig. 7

PAYROLL AND EFFICIENCY REPORT

DEPARTMENT No — PAYROLL ENDING — SHEET No 7 OF 55 SHEETS

OPERATOR NAME	NUMBER	ATTENDANCE TIME	STANDARD TIME	ACTUAL TIME	PAY AMOUNT	EFFICIENCY PERCENT
ADAMS JOHN	6	44 0	41 5	44 0	20 75	
ANDERSON CHARLES	91	44 0	41 5	43 5	20 62	
BARTH ALF	172	35 0	35 5	36 0	17 75	
WINTER ROB	1895	43 5	42 0	42 5	21 00	
TOTAL DIRECT LABOR		2062 0	1842 5	1926 5	921 20	87.7%
JAMES ARTHUR	399	43 5			38 00	
PELTON WM	1112	44 0			34 75	
TOTAL INDIRECT LABOR		216 5			171 55	
TOTAL FOR DEPARTMENT		2278 5			1092 75	
NUMBER OF EMPLOYEES 65						
TOTAL AVAILABLE TIME		2560 0				
TIME LOST		281 5	20 3/4			

Fig. 8

The Southern Mill Village Problem

A Comprehensive Discussion of Some of the Background and Present-Day Phases—Why Cotton Manufacturers Have Been Forced Into a Certain Amount of Paternalism—Difficulty of Placing Village Investment on a Self-Sustaining Basis

By H. M. Heiss

Direction of Educational and Social Work, Revolution Cotton Mills, Greensboro, N. C.

Much has been said and written about the development and problems of the southern cotton mill village but Mr. Heiss, in the accompanying address delivered recently before Institute of Public Welfare at Chapel Hill, N. C., summarizes admirably much of the present-day discussion. As a former president of the Southern Textile Social Service Association and an active educational and social worker himself, he is in a position to point out trends which need careful study by all manufacturers.

PERHAPS one of the most mooted questions in industry in the United States today appertains to those things surrounding and contributing to the longevity and enjoyment and happiness of the employes of the thousands of plants scattered throughout the nation.

It is my intention to be free from prejudice and partisanship of any kind and the facts that I give you have come from actual experience and from reliable authorities.

In order to appreciate clearly the southern mill village as it is today, it is essential that we turn back to those hard and distressing years immediately following the civil war and grasp a situation which, even today, makes us shudder to think of. In the southland the monophased economic condition prevalent before the war and the heart rending after effects left the South with hundreds of people penniless, ignorant and under-privileged. Some of these people were different from the other poor people of the South in that they had been poor before the war and had not the opportunity of either education or social advantages, hence were unable to adjust themselves to a new era and were without means of earning a livelihood. From out of this chaotic and deplorable condition came the birth of the cotton mill of the South. It is true that many mills were built by northern capital and still more came in existence for the purpose of making profits, but, from the information I have obtained, the greatest number of early cotton mills of the South were built primarily to give employment to these under-privileged people of whom I have just spoken.

Villages Necessitated

The building of these mills also meant the construction of houses around them for the employes who were previously scattered throughout farms and mountains of the South—hence the cotton mill village. Naturally, with a very limited capital, the mill owners were able to furnish only the cheapest type of home for the newly recruited employes. However, these homes as a whole were an improvement over their former shacks. I beseech you to try to picture in your minds both the home condition of these under-privileged people before they entered the mill village and also immediately afterwards. Try to visualize their state of intelligence, their customs, sanitary conditions, their general health and almost entire lack of education of any kind, then place yourself in a position similar to that occupied by the executives and owners of these industries who were forced to compete in open market with a section of the country whose very tradition was emblazoned with industry. Is there any wonder that these big hearted southern gentlemen felt a keen responsibility for the welfare and development of these people for whom they had built these industries, and with whom they hoped to successfully operate them? Even though some may doubt the philanthropic spirit which prompted these manufacturers, we cannot doubt the expediency which they exercised in seeing that their employes were better educated and more capable of taking care of themselves from a standpoint of health and physical well-being. I will pass up the actual motives for the practice of paternalism, leaving you each individually your own idea as to why paternalism first come into existence into the textile industry.

I find it necessary in discussing the social problem of the mill village to confine my remarks chiefly to the larger industries for it is they that are setting the pace for the others and economic conditions at the present time point more and more toward the gradual dying out of these small undercapitalized cotton mills.

Going back again to the early days of the mill village, we find the mills financially unable to offer their employes few advantages other than the house built near the mill, the school and church. But, due to persistency of purpose and also to the inherent latent ability of these Anglo-Saxon people, profits began to accrue. The mill owners, instead of placing this money in gold and gilt edge securities which meant sure dividends to them, improved their villages, but more educational advantages in easy reach of their people and began a mill village social service commonly known as "welfare work."

Remarkable Development

The rapid development of the mill employes can hardly be likened to the growth and development of any other group or nation of people. This statement is not one of idle chatter but can be substantiated by anyone who is familiar with the condition of these people past and present. This alone legitimatizes the past use of the practice of paternalism, but I would not have you think for one minute that I, personally, advocate such a practice except in cases where it can be for the development and upbuilding of the people upon whom it is practiced, nor do I think that there exists many mill executives who would attempt or even consider allowing any of their subordinates to subject their employes to any practice which would deprive them of their true citizenship or of their privilege to attain any degree of wealth or fame which their ability and anticipations might allow them to.

Recent Change

In the past few years there has been a marked change in the social service prevalent in the larger mill villages. This change has come about because there has been the need of it to harmonize with the continual development of the people, and instead of continuing with a form of somewhat dictatorial service and assistance, it has changed its role to a cooperative type of democratic leadership. Much might be said at this time to explain this change, but that is not necessary, as you who have had experience in methods and dealings with the illiterate and then with the enlightened are well familiar with difference in procedure.

There is a varying degree of social service in the numerous industries throughout the South. Some few do not and have not practiced any type of paternalism and have no social welfare system. These are the industries which we have pointed out to us in double sized type in sensational stories appearing in popular magazines, but in the larger and modern mill villages we find all social and health work under the supervision of trained nurses, doctors and professional workers employed for their knowledge of their profession and not for any other reason. In those villages where the schools are under the supervision of the mill management the teachers and principals seek their position and secure it in the same manner as is general throughout the South and in no cases is the course of study or the method of instruction regulated by the owner of the mill other than that many are insistent that those advantages of domestic science, manual training, public school music, gardening and supervised recreation, which are not attainable in the average school system, are included in the school work.

The "Doomsday Book"

I have with me for your inspection several record blank sheets for that book which one of our severest criticizers has termed the "Doomsday book of the mill village," the book by which the mills are supposed to keep absolute record of each and every individual in the mill that they might better outline and control their destinies. This book was prepared by the pioneer welfare worker of the South and to my knowledge has not been at one time used except in the furthering of the social service work of the mill village itself. If you will examine the items on this sheet, you will find a fairly complete record of each member of each family in the village is kept, and I ask if you do not consider all of this information necessary for the most efficient and intelligent social work? If a member of a family is sick it is very easy for the nurse or welfare worker to refer to this community book and quickly ascertain how many in the family are at work, what their respective ages are, if they need outside assistance, etc. By this book and other systems of records and control the welfare workers are at all times in touch with the conditions of each and every family in the village. The superintendent and paymaster of the mill see that they have access to all financial information necessary in determining the real condition of each case. In other words the welfare worker becomes not only a case worker, but an efficient one. The nurse and school officials by using this information can more intelligently promote health and education in the village. Should any of you people who have occasion at times to investigate an individual or family in a mill village, I am sure will find a complete history of the case very easy to obtain in a short time by consulting the welfare officers in the village.

The biggest problem in the mill

(*Continued on page* 105)

Equipment for Elevated Water Tanks

Devices for Indicating the Water Level in Elevated Tanks—Automatic Regulation of Pumps for Tank Service—Electric Devices and Signals—Rate of Cooling in Elevated Tanks and Computations for Heat Loss—Methods of Supplying Heat to Tanks

By Charles L. Hubbard

ELEVATED tanks forming parts of the water supply and sprinkler systems of textile mills are usually erected complete by the manufacturers or their representatives. There is, however, a certain amount of auxiliary equipment such as pumps, overflow connections, water-level indicators, automatic pump controls, and devices for the prevention of freezing which has to be attended to by those in charge of the plant. It is usually best, in work of such importance, to use devices especially designed for this purpose, although their assembling and installation may be done under the supervision of the engineer in charge of the plant.

Indicators for Water Level

It is always desirable to know the height of the water level in the tank, and this knowledge is absolutely necessary, unless the tank is provided with some device for automatically starting and stopping the pump, in order to maintain a water level between certain predetermined limits. Water-level indicators are of three general types; i. e., those which consist of a scale with a sliding index or pointer attached to a float in the tank; electric signals, such as bells or lamps operated by a float; and those which indicate the height of the surface of the water by showing the hydrostatic pressure exerted by the water on some form of gauge.

One of the more simple of the first-mentioned direct type is shown in principle in Fig. 1. This is drawn out of proportion in order to illustrate more clearly the details of construction. It is adapted to cases where the tank is installed directly above the pump room, or nearly so, and consists of a wooden scale practically as long as the tank is high. There is a sliding pointer attached by means of a small wire rope to a float in the tank as indicated. The rope is carried over suitable pulleys and through guides, and may also under certain conditions be extended through a limited horizontal distance when the tank is not directly above the pump room.

The pointer should be of sufficient weight to keep the rope taut and thus follow the movements of the float. Usually the water level in the tank, especially in the case of sprinkler systems, is only allowed to fall a short distance before it is again brought up to the high mark, in which case a high and low-water signal working between restricted limits is generally employed. One of the simplest of these is a pair of steam or compressed air whistles of different pitch operated by a float and weighted wire cord similar to that shown in Fig. 1.

Electric Signals

An electric signal operating on the same general principle is illustrated in

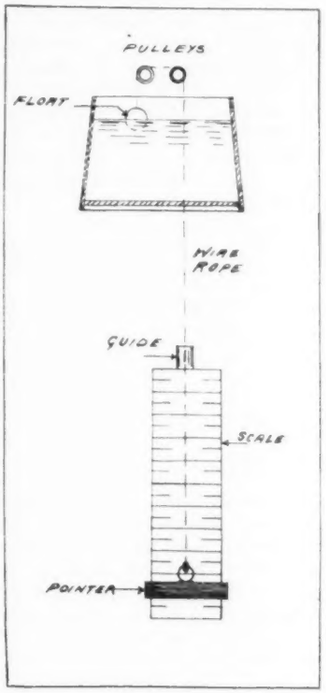


Fig. 1. Simple Form of Direct Indicator for Showing Water Level in Tank

Fig. 2. In this arrangement the wire cord from the float is attached to a metal cross or sliding contact of sufficient weight to hold it taut. At the left is a metal strip of a length slightly exceeding the desired distance between high and low water levels in the tank.

At the right of the cord and opposite the upper and lower ends of the metal strip are two stationary contacts. When the tank is full, as shown in the drawing, the slide will be at the lower end of its travel and will make an electric circuit causing the high-water signal lamp, which may be colored, to light. When the water falls to its low level, contact will be made at the upper end of the metal strip, and the other lamp, which may be either white or of a different color from the high-water signal lamp, will be lighted.

The same device may be used to ring bells as signals if desired, and either lamps or bells may be placed at such point as is most convenient without reference to the location of the tank. Sometimes this scheme is so arranged that electric contact is made at 12-in. intervals, and intermediate white lights between the differently colored ones flash to indicate the water level, to within one foot, at any time.

The float and electrical attachment shown in Fig. 3 makes it possible to locate the indicating device anywhere about the plant without regard to the location of the tank, which is often an important matter in establishments of large size. This may be purchased ready to attach to any tank and is adjustable for any desired range between high and low water by varying the position of the lower arm

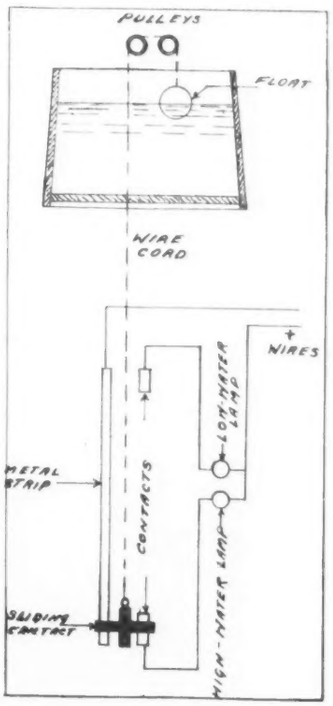


Fig. 2. Electric Signals for Indicating High and Low Levels in Tank

on the vertical rod. At the extreme upper and lower positions, the floats operate a sliding rod which makes the proper electrical contact in the small weather-proof casing at the top from which wires lead to signal bells or lamps in the engine or pump room where signaling occurs in the same manner as illustrated by Fig. 2.

Indicators acting on the hydrostatic principle include the mercury and altitude gauges. These indicate the exact quantity of water at all times and are simply connected with the tank by a special small pipe or with any existing pipe in which the velocity of the water is not sufficient to affect the pressure, and which leads from the tank directly to the gauge. Ordinarily the scale of the mercury tube and the dial of the altitude gauge is graduated in feet or pounds. When used for this purpose, special graduations should be used to show either the height of the surface of the water from the bottom of the tank, or the contents of the tank in gallons.

Automatic Pump Equipment

The devices described thus far are especially suited for use in cases where the tank is filled by means of a pump under hand control. In large plants it is more common to provide means for filling the tank automatically when the water falls to a given minimum level, in which case an air indicating device is not required, except as a check on the automatic filling equipment.

It is a good precaution, however, where the tank is used for fire protection, to install a simple electrical device for indicating the high and low levels, since failure of the automatic pump or other filling device might not be promptly discovered otherwise.

If the tank is supplied with water under pressure from the city mains, the simplest method of controlling the

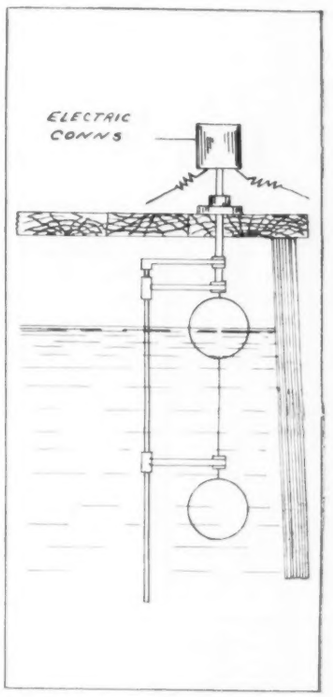


Fig. 3. Float for Operating Electric Signaling Devices

level is by means of a reliable ball cock or float valve of large size. When a direct-acting steam pump or a turbine-driven centrifugal pump is employed, the arrangement shown in

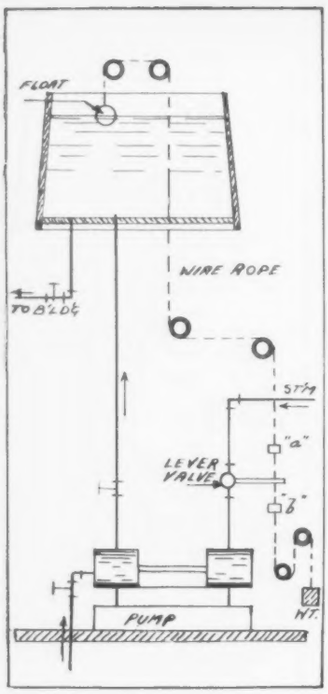


Fig. 4. Float and Pulley Device for Automatically Starting and Stopping a Steam Pump

Fig. 4 may often be used to advantage. This consists of a small wire rope, one end of which is attached to a float in the tank and the other end weighted to keep it taut. The required position of the rope is secured by means of guides and pulleys, and to it are fastened two blocks "*a*" and "*b*," which actuate a lever valve in the steam supply to the pump as indicated in the drawing. By properly adjusting the blocks on the rope, the desired maximum and minimum levels at which the pump is to stop and start are easily obtained.

This general scheme may also be adopted to the operation of a turbine-driven pump, or made to throw a switch where an electric pump is used. In general, however, the device shown in Fig. 3 is better adapted to the latter type of pump, since electric wires are more easily installed than a rope with pulleys, especially when the tank is located some distance from the pump room.

Pump Governor Used

The arrangement illustrated in Fig. 5 is adapted to storage supplies where an overflow connection may be made without danger of freezing. The regulator in the steam supply to the pump consists of a balanced valve, the stem of which is in contact with a diaphragm, which in turn is connected by a small pipe line to the tank at overflow level. The pump continues in action until the tank is filled to this overflow point, when water runs into the diaphragm chamber. When a column of water of sufficient height to overcome the upward force of the spring beneath the diaphragm has accumulated in the pipe, the steam valve is closed and the pump stops. The pump will not start again until the water in the overflow pipe is discharged through a small drip cock which is left partially open. The level to which the water is allowed to fall before the pump starts again is regulated by the drip cock—the wider the cock is opened the sooner the water will be discharged from the pipe, and the pump started again.

Another arrangement has a ball cock at the end of the pump discharge pipe in the tank, so that when the water reaches the desired level the valve closes automatically. This has the effect of raising the pressure in the discharge pipe and communicating it to an "excess pressure valve" in the steam pipe. This valve closes, shutting off the steam and stopping the pump. When the water level in the tank again falls, the float valve opens, relieving the pressure in the discharge pipe and the pump starts up again. There are other forms of special devices, of the general nature

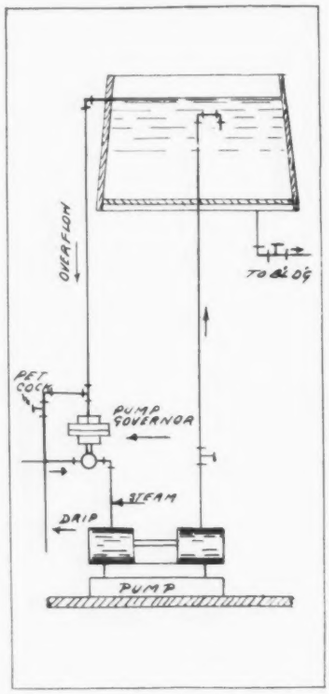


Fig. 5. Diaphragm or Pump Governor for Automatically Controlling the Supply of Water to Tank

of those described, which may be easily attached to the steam pipe of a pump or of a driving turbine.

Precautions Against Freezing

The nature and amount of precaution against freezing which it is necessary to take depends partly upon the location and construction of the tank, and partly upon whether the water is in motion, as when water from the storage tank is used for all mill purposes, or whether it is perfectly still, as is the case when it is used for sprinkler service only. Speaking in a very general way, tanks in which the water changes frequently and which are located south of 43 deg. latitude, which runs through the southern parts of New Hampshire and Vermont, and through central New York, and south-central Michigan, will not require special precautionary measures against freezing except insulation of the connecting pipes. When the water does not change, and in locations especially exposed to winds, the above statement cannot be applied literally but may serve as a guide.

When the tank is used as a source of supply for a sprinkler system and there is no movement of the water, there is much greater liability of freezing. Here it is customary to provide means for heating the water where there is danger of the temperature falling well below the freezing point for any considerable length of time. Ice first forms over the surface of the water and then on the sides of the tank where a moderate coating, instead of being harmful, acts beneficially as an insulator.

Too thick a coating, of course, is undesirable, because it reduces the capacity of the tank. Surface ice is more objectionable because it first interferes with the action of floats and overflow pipes, and, as it increases in thickness, exerts a powerful outward pressure while expanding during the freezing, and may damage the tank.

Time Required for Freezing

The average rate of heat transmission per square foot of exposed surface per hour per degree difference between the water and still air is about 0.35 b.t.u. for wooden tanks 3 in. in thickness, and 1.5+ b.t.u. for steel tanks. High winds will of course increase this somewhat, but, since the lower temperatures usually occur without wind, the above figures may ordinarily be employed as indicative of the minimum temperature it is necessary to provide for.

Under ordinary winter conditions the water in an outside tank exposed to the heat of the sun will stand at about 40 deg. Suppose the air temperature suddenly drops to 0 deg. The average temperature of the water in cooling from 40 to 32 deg. (the freezing point) will be (40 deg. + 32 deg.) ÷ 2 = 36 deg., and for a steel tank, the rate of heat transmission from water to air will be 36 x 1.5 + = 55 b.t.u. per square foot of surface per hour. For example, a tank 15 ft. in diameter by 20 ft. in height has an exposed surface of about 1,300 sq. ft., and will contain approximately 219,000 lbs. of water. To cool 1 lb. of water from 40 to 32 deg. requires the removal of 40 — 32 = 8 b.t.u. To cool 219,000 lbs. through this range requires the removal of 219,000 x 8 = 1,752,000 b.t.u. The transmission of heat from the water to the air is 55 x 1,300 = 71,500 b.t.u., hence it will require 1,752,000 ÷ 71,500 = 24+ hrs. to cool the body of water in the tank to the freezing point.

To change 1 lb. of water at 32 deg. into ice at the same temperature requires the removal of 143 b.t.u.; hence to freeze the water in the tank will require the further removal of 143 x 219,000 = 31,317,000 b.t.u. With the water at a temperature of 32 deg., the rate of heat transfer will be 1.5 x 32 = 48 b.t.u. per square foot of surface per hour, or a total of 48 x 1,300 = 62,400 b.t.u. To freeze the entire body of water in the tank will therefore require 31,317,000 ÷ 62,400 = 502 hrs., or 502 ÷ 24 = 21 days — 22 days to both cool and freeze the water. With a wooden tank it would require 1.5 ÷ 0.35 = 4.3 times as long to produce the same result.

This rough computation has been made to illustrate the comparatively long time required to produce any considerable amount of ice under average winter conditions. In the assumed case it will require 24 hrs. to cool the water to the freezing point, after which ice will form over the surface at the rate of about ½ in. per hr., while the temperature of the air remains at 0 deg. As a matter of fact, extremely cold weather hardly ever holds continuously for any great length of time, and even when it does, the effect of the sun upon the outside of the tank retards considerably the process of freezing.

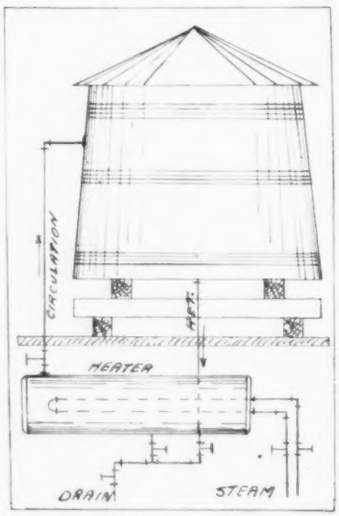


Fig. 6. Method of Prevention of Freezing by Warming with a Small Tank Heater

Prevention of Freezing

Heat for the prevention of freezing is applied in different ways according to local conditions. When the tank is placed upon the roof of a building, the arrangement shown in Fig. 6 may be employed. This consists of an ordinary tank heater containing a steam coil. It is so connected with the main outside tank that a constant circulation of warm water, as indicated by the arrows, is produced. The location of the heater with reference to the tank will depend somewhat upon circumstances. It is sometimes placed in a penthouse on the roof and sometimes within the building, as shown in the drawing. The latter is preferable, since it makes all parts of the apparatus accessible and easily attainable for operation and repairs.

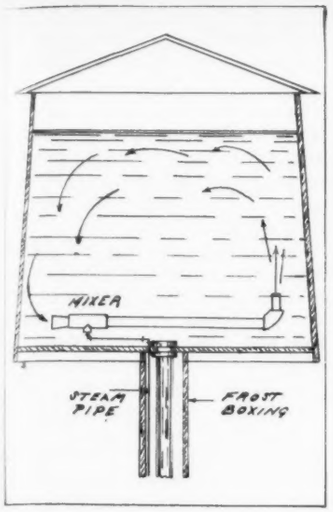


Fig. 7. Method of Heating by Blowing Steam Directly into the Water

The circulation pipe should be well insulated to prevent waste of heat, and it may be well in some cases to carry it up inside the tank to reduce the amount of exposure.

Sometimes the steam coil is placed directly in the main tank, which method is somewhat simpler but the coils are not so easily reached in case of repairs. When the tank is supported upon an independent trestle away from the buildings, either the submerged coil noted above or a mixing device for blowing live steam directly into the water is commonly used. An arrangement of the latter type is shown in Fig. 7, and the details of the mixer are illustrated in Fig. 8. This system of warming should not be employed where the water is used for drinking purposes, and only live steam free from oil should be used in the mixer when this method is resorted to.

The mixing device is so located as to set up a circulation of the water and thus produce a uniform temperature throughout the tank. The steam supply pipe in either direct or indirect steam heating should be run underground to the tower, and then to the tank through the "frost boxing" beside the main riser.

Steam is practically always employed for heating where the tank forms part of the equipment of an industrial plant, since it is easily led to the point where heat is needed and requires practically no care except the turning on and off of the valves.

Sometimes, for one reason or another, it is not practical to draw steam from the main plant and it becomes necessary to generate heat at the tank itself. An arrangement wherein this is accomplished is illustrated in Fig. 9. This system makes use of an ordinary hot-water heater, such as is used for the warming of dwelling houses. The heater is located in a small house directly below the tank and the flow and return pipes are carried up inside the frost boxing where they prevent the water pipes from freezing. A small steam boiler may be used in a similar manner if desired.

Heating Surface Required

The heating surface required depends upon the quantity of steam to be condensed in a given time which in turn depends upon the volume of water to be warmed and the rate of heat supply desired. In some cases just enough heat may be provided to hold the water at a given temperature slightly above the freezing point, while in others sufficient heat is stored in the water in an hour or so to prevent freezing for perhaps 24 hrs.

Let us consider the same tank used in the previous illustration and assume that we are to hold the water at a temperature of 36 deg. when the air temperature is 0 deg. The heat loss from the tank under these conditions is found to be 71,500 b.t.u. per hour, which would require the condensation of 71,500 ÷ 960 = 75 lbs. of steam per hour at a pressure of 5 lbs. If it was desired to supply enough heat in 1 hr. to prevent freezing for the next 24 hrs., it would be necessary to blow in 75 x 25 = 1,875 lbs., or actually slightly more to offset the higher average water temperature and resulting increase in heat transmission. The amount of steam required is of course the same whether it is blown into the water or condensed in a coil.

When the heating is done by a submerged iron coil in the main tank, we may allow about 170 b.t.u. per square foot of heating surface per hour per degree difference between the temperatures of the steam and the water. With steam at 5 lbs. pressure and an average water temperature of 36 deg., this will amount to (228 — 36) x 170 = 32,640 b.t.u.

In order to hold the water in the tank at 36 deg., we have found it necessary to supply 71,500 b.t.u. per hour; hence, 71,500 ÷ 32,640 = 2.2 sq. ft. of coil surface will be required which is equivalent to about 6.6 linear feet of 1 in. pipe. If it is desired to supply sufficient heat in 1 hr. to prevent freezing for the ensuing 24, then 2.2 x 25 = 55 sq. ft. of coil surface must be provided. Half this surface would supply reserve water for 24 hrs. in 2 hrs., or 12 hrs. reserve in 1 hr., and so on. If iron pipe is used, it should be galvanized.

Brass Pipe More Efficient

Brass pipe is more durable and has a somewhat higher heating efficiency —it being necessary to use only about 0.6 as great a surface for a given capacity as with iron pipe. As the amount of coil surface is small in almost every case, brass pipe would probably prove more satisfactory in the end. When the heating coil is placed in a supplementary heater as in Fig. 6, a somewhat higher efficiency is obtained due to the greater velocity of the water while passing over the coil surface. In case of brass pipe, an efficiency of 280 to 300 b.t.u. per square foot per hour may be obtained with this arrangement.

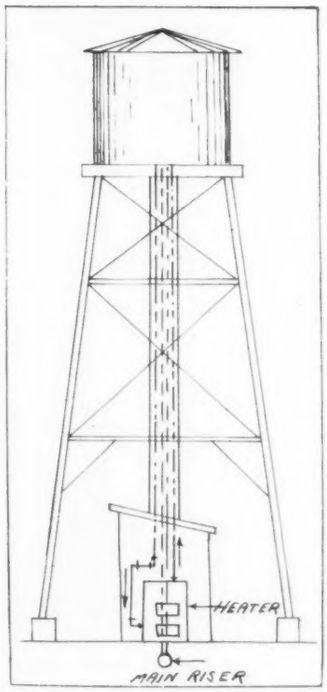


Fig. 9. Method of Warming Isolated Tanks by Means of an Independent Heater

In an installation of the kind shown in Fig. 9, we may count upon 30,000 to 40,000 b.t.u. per square foot of grate surface per hour, depending upon the attention which the heater receives. A heater of this type would be operated continuously, although at a reduced capacity during the night.

If we allow 40,000 b.t.u. per square foot of grate for 12 hrs. during the day, and one-half of this or 20,000 b.t.u. during the night, we shall have an average of 30,000 b.t.u. per square foot of grate surface per hour for the entire 24 hr. period. This calls for 71,500 ÷ 30,000 = 2.4 sq. ft. of grate area under the conditions of operation assumed. This corresponds closely to a 22-in. fire-pot.

In many cases, especially with wooden tanks where the loss of heat takes place more slowly, it is only necessary to prevent freezing in the water pipes leading to the tank. This is usually done by building around them a housing or "frost box" of the general construction shown in Fig. 10. The small pipe showing directly against the main riser is connected with steam pressure at the bottom and left open at the top. Its use is for thawing out the riser in case of a freeze-up.

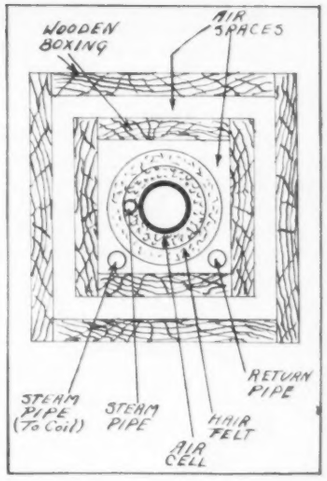


Fig. 10. Typical Method of Insulating the Water Pipes Leading to an Elevated Tank

The various devices and methods described either are for general application to such cases as they may be adapted, or may be modified or combined to meet other and similar conditions.

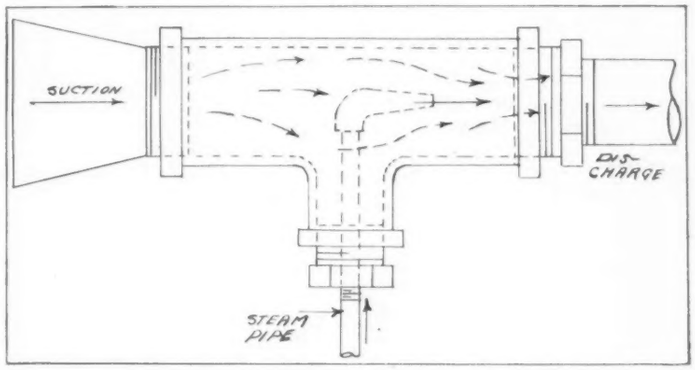


Fig. 8. Detail of Mixing Device Employed in Fig. 7

Selection of Tanks

A word on the characteristics which figure in the selection of a tank may not be out of place in the present discussion. While both wood and steel are used in the construction of water tanks, the latter material is more frequently employed at the present time, especially for those of larger size.

Steel tanks are fireproof, do not shrink when partially empty, and will last for many years when properly protected against corrosion and damage from ice.

The better woods for tanks are air-dried redwood, Douglas fir, cypress, and yellow pine. The first of these is very durable and is not subject to decay or injury by insects. Cases are on record where tanks of this material have been in use for more than fifty years and are still in good condition. Douglas fir is similar in character to redwood and not quite so expensive. Cypress is also very desirable and is especially desirable where the water is to be used for

drinking purposes, as it imparts neither taste nor odor to the water. Yellow pine is coming into general use, especially for tanks of large size where the cost of cypress in lengths of over 16 ft. would be excessive and prohibitive. The principal disadvantage of the wooden tank is the effect of shrinkage when it is not full. Under most conditions, where the tank is used for sprinkler service, this objection would not apply since the tank would be kept full at all times.

The folowing tables will be found useful for estimating the dimensions of tanks for given capacities:

WOODEN TANKS WITH FLAT BOTTOMS

Capacity in Gals.	Diameter in Ft.	Height in Ft.
1,000	6	6
5,000	10	9
10,000	13	12
25,000	18	14
50,000	24	16
75,000	29	16
100,000	30	20

STEEL TANKS, WITH HEMISPHERICAL BOTTOMS

Capacity in Gals.	Diameter in Ft.	Height in Ft.
5,000	8	12
10,000	10	14
25,000	14	17
50,000	19	18
100,000	22	28
150,000	26	29
200,000	28	35
300,000	32	41
500,000	38	47

Extensive Curtailment in Canadian Industry

MONTREAL, CAN.—The *Monthly Bulletin* of the Canadian Woolen and Knit Goods Manufacturers' Association will say:

"A reasonably accurate index of conditions in the 294 woolen and knitting mills in Canada was obtained on April 30, 1926, when a questionnaire was received back from 73 mills.

"Of the 73 mills reporting 60 were operating and 13 closed down or had gone out of business. In the 60 mills reporting as operating the position of the machinery at that time was as follows:

	Idle.	Operat.	% idle to operat.
Looms	795	842	94%
Cards	70	301	23%
Mules	74	264	28%
Dyeing, etc.	146	369	39%
Knitting	1,664	4,694	35%
Sewing	572	2,493	23%

"Number of hands, employed, 11,210; number of hands employed if all machinery had been operating, 13,696. Sixteen mills reported that the hands they were employing were not working a full week.

"These figures do not reflect one one of the most serious factors so far as the workers and the mills are concerned. Owing to the uncertainty of continued employment, the part time wages, the shortage of work, the industry is losing its skilled help and the United States is benefiting. One of the larger mills reports that since Jan. 1, 1924, over 533 trained employes have left them and had to be replaced from time to time, as necessary, with untrained people because skilled workers did not want to, or have to, remain in a country where employment conditions were so precarious and unsatisfactory."

Institute Survey an Informal One

Study Is Merely to Determine What Function New Body Can Perform in Elimination of Waste

(*Special to Textile World*)

WASHINGTON, D. C.

SINCE the conference last week of The Cotton-Textile Institute's organization committee with Secretary of Commerce Hoover and Dr. Klein, director of the Bureau of Foreign & Domestic Commerce, there has been considerable mistaken speculation here regarding the projected survey of the industry which, Secretary Hoover stated, would be undertaken to determine what functions the Institute shall perform to accomplish what Mr. Hoover broadly terms "elimination of waste."

The "survey" is not as formidable as it sounds, but this characterization has led to some confusion in the minds of those who are following Institute developments. It is not intended to be a formal, studied scrutiny of the industry and its operations. Neither will its undertaking wait upon formal organization of the Institute next October. The term "survey" merely has been applied by Secretary Hoover to the work on which the Institute's committee, of which Stuart W. Cramer is chairman, already has engaged in order that it may have a fairly definite plan of procedure to present at the Institute's first regular meeting Oct. 20.

If Mr. Cramer's committee finds, in the meantime, a man to direct the destinies of the Institute, the committee is expected to leave further survey of the situation largely to him, but if they are stumped in their efforts to find a man for the job the committee's members themselves will be obliged to carry on actively what ordinarily would fall to the duties of that man. If the Institute's organizers are slow to relinquish hope that Mr. Hoover will serve them as director of the Institute it will probably delay the selection of another man.

Hoover Acceptance Unlikely

Dr. Klein informed TEXTILE WORLD's correspondent that he did not know as a fact whether or not Mr. Hoover would accept the directorship, but in his opinion there is no likelihood that he will. Secretary Hoover enjoys public service and it is believed that he will continue to remain in it, in some capacity, as long as private affairs will permit. Dr. Klein has not been mentioned as a candidate but he might well be regarded as eligible if, indeed, he could be induced to leave the Department of Commerce.

Close cooperation between the new Institute and the Department of Commerce is anticipated by Dr. Klein. The facilities and services of the Department available to the industry will be much more effective because of the direct contact with the whole industry made possible through a single agency, he said. The Textile Division of the Bureau of Foreign & Domestic Commerce, the Census Bureau, the Bureau of Standards, the Domestic Commerce Division, and the Division of Simplified Practice all may be able to contribute to the upbuilding of the cotton textile industry through this medium, according to Dr. Klein.

World Cotton Industry

Depression in Most Countries Reported by International

MANCHESTER, ENG.—In the current number of the *International Cotton Bulletin*, the official organ of the International Cotton Spinners' Association, the following reports on the state of the cotton industry in various countries are given:

Austria and Czecho-Slovakia: Business could not be much worse than it is at present. The outlook is not favorable and no organized short time is in operation. The mills are working about 30 to 40% less time than last year. Most of the mills are working alternate weeks.

Belgium: Up to now full time working has been the rule. Full time is being worked in the weaving section, but the margin of profit is dropping. The immediate outlook is not too promising.

England: In the American spinning section trade is in a depressed condition. Buyers are holding off, and confidence has not yet been restored in the minds of operators as to whether an economical price basis has been reached. In the Egyptian section a considerable number of mills are stopped, owing to the difficulties created by the coal situation. There is, however, a hopeful feeling that if the coal strike terminates this section will again enter a brighter period. The position in the weaving section of the industry has been most unsatisfactory during the whole of this year. Merchants appear to have no confidence in buying and instead of placing orders for large quantities are buying from hand to mouth, in the expectation that notwithstanding the low price of cotton there will be a further decline. Business is mostly unremunerative.

France: Mills generally are running full time, but the position is liable to be affected at any moment on account of the financial situation of the country. There is little or no stock in France.

Germany: Business is bad in this country. Enormous stocks of yarn are held by spinners. Prices are poor. Improvement in trade is not expected before October or November. Prices are so bad that in many instances quotations for cloth are lower than the price of yarn out of which it is made. In the weaving sheds only three days per week are being worked. Production is about 50%.

Holland: Business in this country has not been very good, but conditions are not so unfavorable as in England.

Italy: Business is not so good as in 1925. Weaving mills are working normal hours. Stocks of cloth have not seriously increased. The spinning mills are engaged for about two months ahead.

Japan: Mills here are still working two shifts of 10 hours each making 20 hours per day. Conditions for domestic business are in a depressed state and export trade is more difficult. There is only a small profit and some concerns are losing money.

Portugal: Trade in cotton goods is worse than ever before and foreign imports are being offered at less than the Portuguese mills can produce.

Spain: Spinning and weaving mills are working short time.

Switzerland: The spinning trade in Switzerland is very bad both in American and Egyptian sections, and spinners are selling their production at much below cost price. On account of the depression some manufacturing firms have reduced hours from 48 to 30 and in some cases even lower. About one-quarter of the looms are stopped. Cloth is much cheaper in England than it is in Switzerland.

Orders Placed With Atlanta Penitentiary Cotton Mill

ATLANTA, GA.—Orders just received by the textile mill at the Atlanta Federal Penitentiary will keep the plant busy for some time to come, according to information just given out.

The Department of Commerce has ordered a considerable quantity of canvas to be used in light-houses under the jurisdiction of that department; the treasury department has ordered about 12,000 yards of white canvas for the coast guard service; the forest service in Montana has placed an order for 12,000 yards of canvas for use in fighting forest fires, and a fourth order for canvas has been received from the Government of Porto Rico.

During the past week, in addition to these orders, 12,000 yards of bleached duck were ordered by the Quartermaster's department of the Army and the Department of the Interior placed an order for 8,000 yards of nainsook for use in the Indian Schools.

These orders have been received in connection with the recently-adopted policy of the Department of Justice to furnish the various departmens of the Government with what they need through industrial workers in the Federal penitentiaries.

*FALL RIVER, MASS. The auction sale of the assets of B. B. & R. Knight, Inc., to B. B. & K. Knight Corp. for $1,400,000 was confirmed by Referee in Bankruptcy Charles P. Ryan, of this city, following a hearing last week at which no objection was raised to the sale being confirmed.

Oxy-Acetylene Welding Equipment for Mills

Describing the Apparatus Composing a Typical Oxy-Acetylene Welding and Cutting Outfit Capable of Effecting Large Savings in Any Textile Plant—Advice in Regard to the Purchases of Torches, Welding Rods, Flux, Regulators, and Hose—Cost of a Portable Unit

Oxy-acetylene welding and cutting equipment has proved to be a valuable medium for increasing production, reducing waste, conserving raw materials, and thereby lessening manufacturing costs. It is said that no other one tool or piece of equipment used in textile mills can show the same savings in the course of a year. It is generally conceded that every plant, large or small, should have at least one set, and it has been shown that the larger mills can make more profitable use of several.

This article describes a typical outfit applicable to textile mill use, and is to be followed in an early issue by another equally convincing article entitled "Oxy-Acetylene Welding by Textile Mills," which will show how and where actual savings are affected by welding proper, cutting, and the building-up of worn and undersized surfaces. These articles are written by an actual user of the equipment described.

EVERY industrial manager, every successful one at least, has always in his mind the attainment of these five conditions: First, to manufacture the highest quality of product possible; second, to manufacture the maximum quantity consistent with quality; third, to reduce his manufacturing costs to a minimum; fourth, to eliminate so far as possible all manufacturing wastes; and fifth, to conserve raw materials.

Item third of the above is really the all-important one in the final summary, since that is the one that determines if the plant is a success or a failure financially, and it is the one upon which the continued existence of the plant depends. But it should be noted that anything that contributes to the second and fourth items will at the same time greatly aid in attaining the third. In giving consideration to the fifth item the manager will have the satisfaction of knowing that he is helping posterity and incidentally may be favoring item three.

Savings from Welding

By making use of the oxy-acetylene welding, or autogenous welding as it is often called, the progressive textile manager is introducing into his plant an all-powerful tool that will help to increase his production, will reduce waste, will conserve raw materials, and, what is more important than all of these, will, by reason of the foregoing, lessen his manufacturing costs.

His production will be increased because broken castings can be repaired in a few minutes by the welding process that by ordinary shop repair methods would take hours, if they could be repaired at all. Thus the machines will be stopped but a fraction of the time which otherwise would elapse before they could be started after the breakdown. The manufacturing costs will be lessened because many castings, which if repaired by shop methods or if replaced by new castings would cost a considerable sum, will by the welding process be repaired at a very low cost. A much smaller stock of repair parts will be carried, since repairs can be so quickly made as to render a large stock unnecessary. This will mean less capital tied up without return in the form of interest on the investment. Lastly the junk pile will be much smaller, which means less manufacturing waste and an increased conservation of raw materials.

It may rightly be stated that no other one tool or piece of equipment in a textile mill can show the tremendous savings in the course of a year that an oxy-acetylene welding and cutting equipment will show. The larger the plant, the greater this showing will be proportionately, since in the larger plants the equipment can be operated full time. Some such plants have several sets.

Welding Outfit

Autogenous welding has superseded the older method of brazing for repairing broken castings. Brazing is really soldering in which a hard solder of high fusing point is used, this solder or spelter being made of equal parts of zinc and copper. For malleable iron, bronze wire was used, and is still used in conjunction with the welding torch. In fact, malleable iron is brazed, not welded. Brazing is also much in favor in repairing galvanized iron, as welding has not proved successful, due to the coating of zinc. The designation of autogenous was given the welding process to signify that the union of the parts is self-created; that is, the parts are united by the same metal, whereas in brazing the parts are joined by a dissimilar metal.

A typical oxy-acetylene welding outfit will consist of five essentials: a supply of oxygen with the necessary regulator and gauges, a supply of acetylene also with regulator and gauges, a welding torch, a supply of welding rods, and some flux. If cutting is to be done, there must be a cutting torch. The oxygen will be purchased in cylinders or "bottles" of 100 or 200 cu. ft. capacity. The pressure of a full tank will be about 1,800 or 2,000 lbs. This oxygen will have been made by the electrolytic or by the liquid air process. The average cost of oxygen is two cents per cubic foot.

A Typical Oxy-Acetylene Welding Outfit in Portable Form

Properties of Acetylene

Acetylene is a gas composed of two parts by volume of carbon and two parts by volume of hydrogen; or, expressed by weight, it is 92.3% carbon and 7.7% hydrogen. It is generated when the chemical calcium carbide is added to water, or when the water is added to the carbide. Calcium carbide is a hard, lime-like substance formed when lime and coke are fused together in an electric furnace. It is possible for a plant to make its own acetylene by installing a generator, but it is not advisable. The fire hazards of a generating plant are greater than when the gas is purchased in tanks, and there is not the portable feature that is so desirable and essential, particularly in a textile plant. It is therefore preferable for a mill to purchase its acetylene in tanks, as it will its oxygen.

Acetylene, if compressed to high pressures by itself alone, is dangerous, and it is liable to explode if it receives a jar or shock, due to the dissociation of its component parts. For this reason the acetylene as supplied to the trade is in tanks that contain a supply of acetone. Acetone is an inflammable liquid boiling at 56 deg. C., and has the remarkable faculty of absorbing 24 to 25 volumes of acetylene per volume of acetone at atmospheric pressure. At 15 lbs. pressure the absorbing capacity is doubled, and at 225 lbs. pressure it is multiplied 15 times. The tanks contain asbestos or other inert porous material, as it would be dangerous should they contain only the acetone and acetylene. Acetylene will cost about three cents per cubic foot. With a high economy type of welding torch on average work, a bottle of oxygen will last 22 hours and a tank of acetylene 48 hours.

Welding and Cutting Torches

The welding torch is the working tool of the equipment, as is also the cutting torch, each being used for its respective type of work. A mill should have both. In the welding torch, the oxygen and the acetylene are mixed in the handle of the torch, and issue from the tip in a single jet. In the cutting torch, the mixed oxygen and acetylene which form the heating jet issue from a series of small holes arranged in a circle, while the cutting oxygen issues in a single jet within the circle of oxygen-acety-

lene holes. The tips of these torches come in various sizes to fit the various classes of work. It is very essential to use the proper size of tip to fit the job. There are numerous makes of torches on the market, some using less amounts of oxygen and acetylene for the same work than do others. The torch using the least amount of gas consistent with satisfactory results is of course the most economical torch to use. Some cutting torches seem to have more force in the cutting jet than do others and thus can cut heavier work in less time.

Welding Rods

The fourth essential of the welding outfit is a supply of welding rods. It is very important that none but the very best rods be used. If the rod metal is not of the proper type or if it is of poor quality, the weld will be a failure. The principal metals used are gray cast iron for cast iron, Norway and Swedish iron for mild steel work, nickel steel for tool steel or where high tensile strength is required, high carbon steel for work where resistence to wear is desired and for building up shafting, high speed steel for making tipped tools, Tobin bronze for malleable iron, manganese bronze for brass and bronze castings, phosphor bronze for copper, and aluminum for aluminum. Rods for use in welding cast iron should be clean and absolutely free from lime and iron oxide. If these are present they will be dissolved in the puddle of molten metal and are very liable to be included in the weld in the form of slag, weakening the weld and possibly making it defective.

Just as there are different makes of torches, so are there numerous brands of welding rods. In the case of rods, the best are the cheapest: and by purchasing the material of well-known reputable firms the buyer can be assured that he is getting suitable metal. False economy in this respect may mean many defective welds and general unsatisfactory results throughout. It is best to purchase the rods, not from jobbing houses, hardware stores, etc., but direct from the companies making the welding equipment or from the steel warehouses that handle the metal.

Suitable Flux

The fifth essential, particularly in the welding of cast iron, is a suitable flux. Whereas in electric welding the rods are flux-coated for reasons that it is not necessary to take up here, in gas welding the flux must be separate from the rods. The general method of using it is to frequently dip the end of the rod into the flux before inserting the rod in to the flame or into the puddle of molten metal.

The flux brings about several necessary conditions that are essential to success. First, it floats off in the puddle the physical impurities from the fused metal. Second, it clears the weld by chemical action. Third, it dissolves the oxides and renders them harmless. Fourth, it protects the metal from oxidation. Fifth, it lowers the temperature at which fusion takes place, thus increasing the flow of metal and the speed of welding. Sixth, it produces a closer texture and finer grain in the finished weld. Fluxes are best obtained from the makers of welding equipment.

The Regulators

There are several other essential parts of a complete welding outfit that are worthy of special mention. The oxygen and the acetylene regulators are connected to the oxygen and acetylene tanks respectively, and each consists of a regulating or reducing valve and two pressure gauges. The valve serves to reduce the high pressure in the tanks (1800 lbs. in a full oxygen tank and 250 lbs. in a full acetylene tank) to the required line pressure for use at the torch. It also ensures a uniform flow of gas at the reduced pressure. The two gauges record the tank and line pressures.

Here again, in the purchase of regulators, only the best should be obtained. Fire or explosion with serious results may result from a defective regulator. The diaphragms may become weak or broken, or the valve may leak. On the first sign of trouble, the entire regulator should be removed and sent to the makers, who will put it into complete repair, test it for proper working condition, and return it. No mill should undertake to repair its regulators. The internal construction is rather complex, and the oxygen regulator particularly is subjected to several very severe conditions that may injure it.

When the oxygen tank valve to the regulator is opened, the regulator is subjected to a very high temperature, due to the high compression of the gas. This temperature may be sufficiently high to injure the valve seat or other parts of the regulator. The quicker the valve is opened, the higher will be this temperature.

There is another point to be considered. All oxygen contains some water vapor, and moist oxygen flowing through a valve under high pressure is liable to generate static electricity. Sparks may be caused, with resultant damage. While accidents are not frequent, yet the foregoing shows that they are possible, and proves that the regulators are not only vital parts of every welding outfit but also that they should be of the very best, should be given the best of care, and should not be tampered with. The general practice is for a mill to purchase a spare regulator of each type in order that there may be no interruption of repair work when a regulator must be sent away.

Hose and Truck

The hose for each gas is another important piece of complete outfit. Only guaranteed hose made especially for oxy-acetylene use should be purchased. For portable outfits, such as are used in textile mills, 50-foot lengths are advisable, and give ample range for the operator when doing work out in the plant. It is well to purchase renewals of hose from the makers of the welding outfits. They do not make the hose, but there will be no question of the quality that they will furnish.

One other item and the outfit is complete. This is the truck or portable platform on which the tanks are mounted. The accompanying photograph shows a typical portable outfit as used in a large worsted mill and one that is complete in every way. Note the regulators with reducing valves and gauges. Observe particularly the manner in which the two 50-foot lengths of hose are coiled. When using the torch only sufficient hose is uncoiled to reach from the truck to the work. The hose is uncollapsible, and the gases pass freely through it even when it is in a coiled form. Care should be taken not to run the truck over the hose or to otherwise injure the rubber surface. In the cut, the welding torch is shown connected to the hose, while the cutting torch rests on the rail just over the acetylene tank. In the tin box in front are kept the welding rods, extra tips, goggles, flux, gloves, wrenches, etc.

A complete outfit such as here shown will cost $180. This price includes the truck but not the oxygen or acetylene tanks. The oxygen tanks are loaned to purchasers by the manufacturers of the gas. In the case of the acetylene tanks, the user of a welding outfit usually buys one or more tanks at a cost of $37.50 for a 100 cu. ft. size and $75.00 for a 300 cu. ft. size. He can also make service contracts with the acetylene company for the exchange of tanks. Such an outfit can be used at the bench in the shop or it can be taken anywhere in the plant or yard as occasion may demand. The 50-foot lengths of hose enable the operator to work with equal ease above or below the ground level. The greater part of the welding work will be done in the shop, while the cutting work will mostly be done outside of the shop.

Improved Pressure Roller

Ball Bearings—Removing Shaft—Weights Attached

By J. Limbrunner.

When using rubber-covered or leather-covered pressure rolls, it is often found that the heat created by the friction while the roll is rotating under heavy pressure is objectionable. This is particularly true when fibers containing gum are handled, as the heat has a tendency to cause the fibers to stick to the rubber or leather covering of the roller. This trouble can be overcome to a large extent by mounting the rollers on ball bearings, as shown in Fig. 1. In cases where the roller is too small to make this possible, the method shown in Fig. 2 can be used.

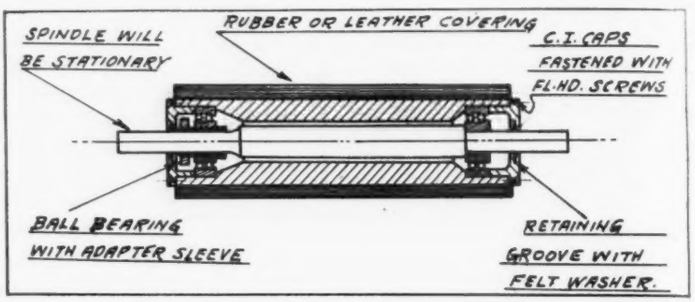

SPINDLE WILL BE STATIONARY
RUBBER OR LEATHER COVERING
C.I. CAPS FASTENED WITH FL.HD. SCREWS
BALL BEARING WITH ADAPTER SLEEVE
RETAINING GROOVE WITH FELT WASHER.

Fig. 1. Pressure Roller Mounted on Ball Bearings

It will be noted from Fig. 1 that an adapter type of ball bearing is suggested for one end. This is done to facilitate removal of shaft and ball bearings, which should of course be done when sending the roller away for vulcanizing or recovering, as otherwise it may be damaged either by the heat to which the rollers are subjected in vulcanizing or by shipping.

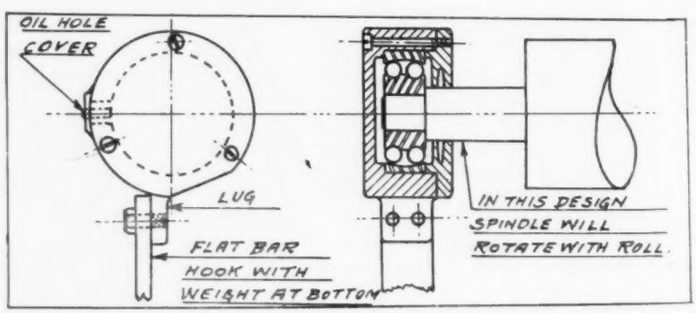


Fig. 2. Method for Mounting Small Rollers on Ball Bearings

In Fig. 2 is illustrated a bearing which is to take the place of the old style bronze or cast-iron hooks. Weights are attached to the bottom end to obtain the required pressure

Wools for the Worsted Industry

Length of Wool Bears a Definite Relation to Its Fineness, and Appreciable Divergence Should Not Be Allowed—Excessive Length Not Desirable—Effect of Alkali on Projection of Scales—Choice of Wool Depends on Many Considerations Other Than Spinning Properties

By Brompton

PROBABLY the two most important properties of wool are fineness and relative length, and in passing let us say that the former should never be judged apart from the latter. If in any lot of wool these two are not relative, the value of the lot is down. Thus the normal length of fibers 1/1200 of an inch in diameter is 4 in. If wool were offered of this quality, good wool in every feature but length, which we will suppose to be 2 in. instead of 4, it would be considered faulty, and would not command as good a price as material of normal length. This lack of length would be responsible for inefficient fiber control in drafting when spinning, and would demand extra turns of twist to produce the same strength of yarn as normal wool. In every process, its manipulation would require the utmost skill and care to prevent irregularity in diameter of sliver, roving, and yarn.

Excessive Length Undesirable

Consider the case of wool of the same quality, but 7 or 8 in. in length, from sheep having missed one year's shearing. If lack of length is a drawback, excessive length will be welcomed, is the conclusion of many inexperienced in working the material. Excessive length of wool is not desired. This quality of wool can be manipulated up to 5½ in. long, but wool beyond that length is not desired. We assume that the excessively long material is similar in surface structure to wool of normal length; and, that being so, there are too many serrations on one fiber, and consequently too much resistance against draft, which may cause "plucked" roving and uneven yarn. This defect is similar in appearance to "twitty" roving and yarn.

Comparison of Scaliness

To show more clearly why excessive fiber length is a defect in any quality, some interesting comparisons of the scaliness of wool fibers should be considered. It has been customary for textile writers to refer to this property of scaliness and base comparisons on the number of serrations or scales in one inch of fiber. These figures, of course, are greatest for fine wools, and lowest for coarse wools and hairs. Thus Lincoln wool, 12 in. long, averages 1920 scales per inch; medium crossbred wool, 8 in. long, averages 2860 scales per inch; and 60s merino possesses 5000 scales per inch. Now, taking the product of the number of scales per inch and the average length in inches of the fibers, we obtain the scales per fiber, and in the three cases just cited we have 23,000, 22,880, and 20,000 respectively, which are just about equal.

Annual Shearing

The general practical utility of annual shearing coincides with the spinners' requirements; the length, fineness, and surface structure in wool of twelve months' growth being such that it is then at its best for spinning to a fine and level worsted yarn.

From this the wool-grower will understand why the user favors wool of normal length, and his endeavor should be to supply wool of regular growth. Labor difficulties are not unknown in sheep shearing circles, and in wet seasons it is difficult to foretell with any degree of certainty the date of shearing. This will explain to some extent the reason for the variation in the length of wools of similar quality, and the art of the blender is requisitioned and tested when dealing with wools of varying length.

There is another factor in connection with scaliness, and that is the projectivity of the scales. This can only be ascertained by microscopic assistance. In the wool trade, and during the various operations in converting the wool into yarn, the material is rarely subjected to microscopic examination. What the wool man cannot see with his naked eyes or feel with his fingers he is prepared to take on risk. Micro-photographs of wool fibers show differences in the surface structure—slight when good wools are being compared, but greater when diseased or badly grown wools are examined. The microscope reveals a serious lack of uniformity in some wools. These wools have their usefulness considerably decreased and are wasty in manipulation.

Effect of Alkali

It is also known, though not widely enough, that in wool washing the projecture of these wool scales is increased by the excessive use of alkalies. This is not desired, as good wool is in its best condition for manufacturing purposes when its natural properties are retained throughout the whole of the processes.

When length, fineness, and surface structure are good, it is then that, though only a few fibers are together in a yarn, they are strong enough without hard twist. The length of wool should bear a relation to its fineness, and if any divergence from this is allowed, it should be a slight increase in length rather than a decrease. Shafty merinos are well spoken of. The reason for this may be because of their better yield in scouring and the small amount of noil in combing, rather than any proved spinning capacity.

As a practical man, one is bound to admit that often other considerations besides that of spinning property influence the comber and spinner in their preference for a good fiber length in any quality of wool. Greater skill and care is necessary when short wools are being combed. The feeding and the drawing-off need more accurate setting. Smaller rollers are used for drawing-off, and these must be run at a higher speed, hence greater wear and tear is imposed on machine and leathers. In drawing and spinning, the setting of the ratch and the position of the carriers (short fiber controllers) need more precise adjustment for short material than for long. Again, short material cannot be successfully worked in machines with front rollers of 4-in. diameter, and many frames are so fitted, because of their suitability for crossbred wools. When some of the difficulties of manipulating short wools are explained, the wool grower can understand why nothing less than normal length wool is wanted.

To mention all that affects the spinning capacity of wools is beyond the limits of a short article. To obtain the full value of the scales on the wool, it must be worked with half the fibers pointing in one direction and the other half in the opposite direction. Wool of good quality has a certain amount of stretch or elasticity which aids considerably in making strong yarn. The fibers are tugged at in the card, gill boxes, and drawing frames. Were this property absent in any lot of wool, many fibers would break, and, in addition to increasing the noil percentage, would make it impossible to spin the wool to its quality fineness. Length should be accompanied by soundness. In ramie we have an instance of length without elasticity, and its conversion into yarn is accomplished only with difficulty. Often other materials are worked up with it to give it cohesion and to control it when under stress.

Subconsciously the wool buyer bases his judgment upon eight properties of the wool fiber. These are fineness, length, surface structure, waviness, soundness, elasticity, handle, and yield. Of these, fineness and relative length are probably the most important. Yield requires an accurate judgment, as an error of more than 2% in estimating the proportion of wool and foreign matter is a serious item financially. If those responsible for the development of wool growing were more familiar with the properties of good wool, they might in many cases provide a better fiber.

Properties of Good Wool

A summary of the properties of good wool will, it is hoped, provide thought for those responsible for the development of wool growing and the condition of the wool on the sheep's back. The following remarks apply more to short wools, such as merinos and fine crossbreds, rather than to long wools.

Fineness. When exceptionally fine, the lighest weight fabrics are possible of production, and are strong and durable. Fineness also favors smoothness of yarn, and, because of flexibility and strength, enables the fibers to bed together without the use of excessive twist.

Length. In raw wool of the merino type, length has its first consideration in cleanliness. Shafty wool produces yarn possessing firmness, solidity, and smoothness.

Surface Structure. As already mentioned, the full value of serrated wool is only obtained when wool is of normal length, and when the fibers are arranged in proper root and tip order. It is then that the scales engage each other, and assist in making a strongly bound yarn. The warmth of fine wool cloth is due largely to surface structure. The light falling upon a broken surface, such as a merino fiber presents, is broken up, absorbed, and very little reflected. The absorption produces warmth. Scaliness is also responsible in some measure for the hygroscopicity of wool, or its capacity for taking up moisture from the atmosphere. Between the scales small cavities are formed in which the moisture lodges. The felting property of wool is also largely due to its serrated character, combined with its tendency to shrink in water.

Waviness. Though we cannot account for waviness, we have no hesitation in stating its usefulness; i. e., to increase the cohering property of wool. It also gives a desirable softness, springiness, and sponginess to the material.

Soundness. For success in every operation and the final production of a fine, level yarn with a minimum amount of twist, the fibers require to be uniform in strength, diameter, and surface structure. The combination of these constitutes soundness.

Elasticity. Elasticity is desirable for easy working in every machine and for durability as a cloth. The

elasticity of a raw material will become the elasticity of the cloth, which will stretch rather than tear when strained.

Handle. Marked softness in short wool is emphasized by the shortness of the fibers. This softness is retained to give the cloth a softer and kindlier handle, much appreciated by prospective wearers.

These are the properties upon which the wool buyer bases his judgment. If he were reminded that there were seven characteristics he should notice, he would in all probability be ready to deny it; yet, subconsciously, because of his habitual practice in wool valuing, he watches for each of them. There is an eighth property which to him is very important—the amount of yield. To be more than 2% out in estimating the proportion of wool and foreign matter is a serious item financially. Experience and a well-balanced mind are essentials to successful wool judging and buying.

Textile Institute Meeting

U. S. Members Tender Luncheon to Professor Morton

The first meeting of the Textile Institute, Manchester, Eng., ever held in this country took the form of a luncheon tendered Professor W. E. Morton of the Manchester College of Technology by members of the Institute living in and near Boston, and was given at the Exchange Club, Boston, on Thursday, with Franklin W. Hobbs, president of the Arlington Mills and of the National Association of Wool Manufacturers, presiding.

Professor Morton, who is head of the textile department at the Manchester College of Technology and who has been visiting northern and southern mills with a party of young English textile men, spoke briefly of his impressions of his visit, and devoted the greater part of his talk to a description of the work of The Textile Institute since its organization in 1910 and of that of the British Cotton Research Association with which he was formerly associated. Professor Morton expressed the hope that the members of The Textile Institute in this country might form a branch organization and thus cooperate more actively with the parent body. This subject will be discussed at a general meeting of the 35 members of The Textile Institute in this country to be held probably during the convention of the National Association of Cotton Manufacturers in Boston, October 13 and 14.

The Textile Institute, which was organized in Manchester, Eng., in 1910 for the consideration of scientific and technical problems of all branches of the textile industry, and has a membership scattered throughout the textile countries of the world of over 1,300, has no connection with The Cotton-Textile Institute now being organized in this country, and whose objectives are radically different despite the similarity of titles.

What a Statistic Is

THE plans of the newly-organized Cotton-Textile Institute for statistical research lend timely interest to the following remarks by R. L. Welch, secretary of the American Petroleum Institute, made before the Michigan Oil Men's Association:

The popular conception is that a statistic is a dead fact—a fact that has lost its soul. Statisticians are supposed to be undertakers of facts, or if they have economic knowledge, morticians of deceased events. Enter one of their mortuary chapels, and they will show you forms and figures properly iced and embalmed, arranged like formal gardens, embellished with logarythmic curves. The life history of an economic atom is immortalized in a series of charts. Indeed, so expert has become the science of statistics and economics, when shaken in the same bottle, that, from the death struggles of an angleworm, dropped in ink and permitted to die on properly ruled paper, adepts can determine with accuracy the future price of fish.

According to this popular conception, the man who coined the word "statistics" should have met a slow statistical death, in which it should have been made clearly apparent to him at all times that the pulling out of his hairs one by one, and the cutting off of countless logarythmic slices, here and there, the drawing of each drop of blood, were all mere incidents to the more important matter of keeping a voluminous and accurate statistical record of the proceedings, having for its objective, among many other things, the determination whether his decline curve was entirely normal. It is alleged that in arithmetic 2 and 2 make 4. This fiction unfortunately obtained currency before statistics rescued mathematics from the ignominy of being an exact science.

We Use Them Every Day

The popular misconception may have some foundation, because so often a statistic is subjected to the thumb-screw and the rack, and made to testify to something that isn't so. Nevertheless, you use statistics every day in your life. When your watch tells you on arising that it is 6:30, it announces a fact—not merely interesting statistics. (It is only in such places as in Ohio, where there are three different kinds of time in a radius of forty miles, that one needs to be a statistician, fully equipped with a slide rule, to tell the time of day). When your banker calls up to converse about an overdraft, he does not say: "In looking over our statistics I find an abnormalcy in the form of red ink in the column under your name. Please send up a proper assortment of black numbers to take their place." Nor do you in response tell him that you will have a clerk do a Charleston on the adding machine and send the slip to him.

When and if you hold four aces, you would be dead to all emotion if you merely said: "Well, here are some interesting statistics."

A statistic, after all, is the numerical handle whereby one with ordinary understanding can pick up current commercial facts.

Carpet Wool Case Appeal

Decision in Favor of Bigelow-Hartford Carpet Co., Not Final

PHILADELPHIA.—Appeal of the decision rendered June 14, 1926, in the case of Bigelow Hartford Carpet Co., vs United States has been made and the question, of major importance to the wool trade in this country, will not finally be decided until the higher court passes on this case, upon which hearings were held in Boston, New York and Philadelphia. The decision handed down was affirmed by Judges Sullivan and Brown while a dissenting opinion was filed by Judge McCelland.

In this case plaintiff claimed the wool, B. A. 6s, should be properly classified under paragraph 1101 with duty of 12c per pound, asking for a refund of excess duty above this rate that has already been collected and the majority opinion of the court held that this was proper, thereby placing the approval of this 12c duty on B. A. 6s and wools of like character. Paragraph 1101 of the act says wools not improved by the admixture of merino or English blood should be dutiable at 12c per pound, washed 18c, scoured 24c or 11c if on the skin and should wools of this character be used for clothing 20c should be added.

Court said the evidence was overwhelming that the importation, in this case, B. A. 6s, was wool very much inferior in grade and class to the wools expressly mentioned in paragraph 1101 and low grade wools similar to those mentioned, except those actually improved by good blood, which the judge stated would automatically remove them from proper classification under this paragraph of the act.

Tht court stated Congress said in the act "wools not improved by the admixture of merino or English blood" and did not say "not containing any merino or English blood." It therefore held that B. A. 6s is not a wool improved within the meaning of the tariff act, paragraph 1101, by the admixture of merino or English blood and therefore it is properly classified under tariff law under this paragraph and as such subject to rebate, providing said wool was actually used for the making of carpets.

Martel Mills Bond Issue

The Martel Mills, Inc., are offering a $500,000 6½% first mortgage gold bond issue through Peabody, Haughteling & Co., New York. The $1000 bonds carry a warrant for the purchase of 10 shares of no par value common stock at $20 per share.

Work Toward Wool Council

Associations Appoint Committees to Name Representatives

The associations in the wool industry which are cooperating to form the Wool Council of America have already approved the work of their representatives in the preliminary negotiations.

The board of directors of the American Association of Woolen and Worsted Manufacturers met on Tuesday in New York, accepted the report of Allen R. Mitchell, Jr., chairman of the joint publicity committee and representative of the association on that committee, and thanked him for work well done. The appointment of two representatives of the association to the Council was placed in the hands of a committee of three consisting of President Robert T. Francis and two others to be named by him. It is understood that the appointments will be made without delay. It is understood that they will not be committed to any fixed policy.

Tuesday night the executive committee of the National Association of Worsted and Woolen Spinners met in New York, and took action similar to that outlined above. Thomas H. Ball was selected to be one of a committee of three, two others being named by him, which will determine on the two representatives of the spinners on the Council. N. B. Kneass Brooks was representative of the spinners on the publicity committee.

It is understood that the three other associations in the pact for formation of the Council have approved the idea and will soon name delegates.

Those at the spinners' meeting discussed the scrapping of machinery, but only in an informal way. It was said to have been the sense of the meeting, that the industry is overequipped and that a good deal of thought might well be given to this matter. It has been estimated that spinners may embark on a scrapping program of their own.

Mecklenburg Properties Divided into Two New Groups

The properties of the Mecklenburg Mills, recently purchased by Clarence E. Hale at foreclosure sale, have been divided into two groups. The mills in North Charlotte have been acquired by the Mercury Mills, a Delaware corporation affiliated with the mill interests of which G. E. Huggins is president and H. C. Dresser general manager. Farrish Co. will act as sales agents.

The other Mecklenburg properties located in Newton, N. C., will be controlled by interests identified with R. B. Knox, of Newton, the corporation to be known as Clyde Mills, which will sell its product direct. Mr. Knox was identified with the management of these properties when they were owned by the late B. D. Heath, of Charlotte.

Editors
Charles H. Clark Vernon E. Carroll
Clarence Hutton Douglas G. Woolf

EDITORIAL

We Believe
In the Conservation and Protection
of Domestic Industries

Wool Tops and Yarn Need Stabilizing

IF anything more than the prices themselves are needed to prove the unprofitableness for most manufacturers of prices named for new lines of lightweight men's wear it is to be found in the pressure upon spinners, topmakers and the raw material trade for old or lower prices. This demand for yarns, tops and raw materials at figures that will enable competitors to meet the initial prices named upon men's wear by manufacturers who are better covered with relatively cheap materials has not only checked an advancing tendency in wool, but has prevented the establishment of advanced asking prices on tops and yarn.

The wool market has resisted this attack firmly, but certain spinners and combers who are badly in need of business have weakened on just enough contracts to keep them employed, and this has encouraged buyers in their price drive. Commission combers and spinners appear to be the weakest link in the chain, but there is never any certainty that a cut in commission charges will result in a corresponding advantage in the actual top or yarn delivered.

This is a very critical period in the market, and the successful outcome of the new season depends very largely upon adherence by the trade to a manufacturing and merchandising policy that will demonstrate that values have been finally stabilized. Wool values are stabilized and so are men's wear values on the basis named by leading manufacturers. The latter values are possible only to mills owning raw materials at recent minimums, and even then they carry little or no profit unless better than 50% of capacity operation is possible. Final stabilization of values is up to combers and spinners. They can delay stabilization by continuing to accept business at unprofitable prices, and by such action temporarily jeopardize the best interests of the industry, but eventually they must hold for profitable prices or go out of business.

If it be true, as is asserted in some quarters, that the big company and a few leading men's wear and dress goods manufacturers have taken the bulk of the business in tropicals and lightweight men's wear then they will continue to hold their advantage in spite of any concessions made possible by the acceptance by combers and spinners of business at unprofitable prices. The common-sense policy for the latter, and for men's wear manufacturers who are unable to meet initial prices except at a loss, is to keep out of the market until the leaders advance prices. Here is an opportunity for combers and spinners to demonstrate their ability to cooperate and stabilize the market. A few weeks of curtailment and of holding for profitable prices at this junction will be far more effective in stimulating confident buying all along the line than any possible price cutting. What does it profit a man if he gain all the low-priced contracts offered and lose his own business?

* * *

Half-Century of Chemical Progress

PROBABLY the average mill man in considering the industrial development of the last half century, thinks in terms of mechanics rather than of chemistry. This is undoubtedly due largely to the fact that the layman is apt to have a far greater appreciation for, and understanding of, things mechanical than things chemical. There are far more amateur mechanics by avocation than amateur chemists.

And yet, taking the textile industry specifically, it is difficult to over-estimate the part which the science of chemistry has played in its development. The process of mercerizing, the inception of the synthetic fiber industry and the creation of synthetic dyestuffs—to mention only three phases—can undoubtedly be termed more revolutionary than any mechanical discoveries which have taken place coincidentally.

Furthermore, indications are that the future holds even more startling textile chemical developments than has the past. The fact that synthetic fiber manufacture is generally conceded to be in its infancy today foreshadows events in this direction which are beyond the vision and comprehension of most, if not all of us. The interest being shown at present in new methods of waterproofing and new types of other finishes on fabrics is an additional portent of events to come. Furthermore, as has been pointed out repeatedly in these columns, much of the technique of cotton finishing is empirical in nature and it is safe to state that the establishment of those processes on a truly scientific basis may be forecast as a certainty.

At any rate, it is interesting to note that much of the work of the textile research organizations in Great Britain has been along chemical lines and that other textile investigations have followed a similar direction.

Consequently the fact that the American Chemical Society will celebrate its fiftieth anniversary in connection with its meeting in Philadelphia, Sept. 6-11, is of more than passing interest to all connected with textile manufacture. It has been during the life of this organization that much of the development referred to above has taken place. The society itself has grown at a far greater rate than any similar chemical body in the world and has contributed immeasurably to progress in pure and applied science.

Nor is the interest in this meeting purely a theoretical one. An ambitious symposium on the accomplishments of the dye industry in America during the last decade will be held under the auspices of the Dye Division of the society. This symposium will consider, among other topics, the economic importance of the dye industry, the importance of research in that industry, the progress made in dyes and intermediates, and the contribution of the dye industry to various phases of national and industrial life

In view of these facts, the Philadelphia meeting of the American Chemical Society deserves a place on the textile calendar as one of the high lights of the year and as a convention which merits the support and participation of textile manufacturers.

* * *

Yarn Selling Criticized

MANY justifiable criticisms of the methods pursued in the cotton yarn trade have been made from time to time and will continue to be made unless there is some change effected by the seller, either alone or in cooperation with the spinner. These criticisms represent a wide range of procedure and reflect unmercantile methods as well as unethical operations.

There are two axioms in the trade that at various times have proved to be of general application. One of them is that the wire trade is able to buy lower than almost any other class of buyer and another is that when the wire trade comes in for large quantities and purchases at a low figure it is a sign of a change for the better. Last month a leading wire house bought yarn at figures which could not be duplicated with the spinner. There is no disguising the fact that these must have been short sales and if so, the advance which has taken place since would seem to mean a decided loss for those who committed themselves to the selling end of the contract. It has not been the first time that spinners, realizing the placing of short sales, have boosted their prices with the avowed purpose of making the dealer

THE TEXTILE TREND

Cotton Markets: Steady business of good aggregate on gray goods, and broadening interest in finished goods generally. Print cloth and sheeting prices very firm; mills not anxious to sell futures and quoting advances of ⅛-¼c for September. Yarns firmer, and better activity. Cotton holds; bullish sentiment apparently growing.

Wool Goods: No hurry evident in starting fancy worsteds for spring. Samples revamped. Buyers take time. Industry watches machinery scrapping plans. Individual settlements in women's garment strike are easing situation. Improved demand for worsted yarns continues with prices slightly firmer; knitting yarn sales market leader.

Knit Goods Markets: Business on lightweight underwear generally light, though a few individual lines have done well. Seamless silk and rayon mixture hosiery for women moves better, and all-rayon boot stockings are more lively for immediate delivery; general situation spotty. Bathing suit business slow except on low priced garments; sweaters irregular.

Silk Goods: Broadsilks and ribbons note improving demand. Chronic kickers still complain of prices, but situation has definitely improved. Raw silk gives evidence of underlying strength. Consumption expected to be larger in July than in June.

pay for his temerity. This may not have been the reason for spinners' advances of the last week or two but the fact remains that they have been effective stumbling blocks in the way of securing yarn at the figures named the customer.

Whatever may be the answer to the question, why is it possible for the wire trade to buy so low, there is another query that also remains unanswered. Why do dealers enter into contracts with this class of trade on specifications which are decidedly one-sided and which give the buyer the opportunity of rejecting the yarn and buying at the market if prices should go off? It is true that according to the terms of these contracts there is nothing specified which allows rejection when the market declines, but the fact remains that the wording is such that it is very easy to find fault with deliveries of yarn and to reject shipments if the market is not favorable to the acceptance of the product by the buyer. This course has been so often followed in the past that it seems hard to believe sellers will continue to do business on the same basis. It is true there are houses which have absolutely refused to consent to the specifications proposed by this class of trade and have stood firmly to their prices which the buyer could take or leave. Apparently, however, there are plenty of others who can be persuaded to sell on terms which are so favorable to the buyer that those who have had long experience selling houses of this character contend it is a losing proposition. Even direct sellers are said to be responsible for contracts that mean elimination of commission, not only, but actual loss to the spinner. It would not seem that competitive conditions such as have existed this year were sufficient excuse for such transactions. The only palliative is that the report of these sales has had a strengthening influence on the market, both from the price standpoint and as far as demand from the trade is concerned.

* * *

Protectionists to Arms!

WITH the possible exception of a general and determined assault upon the 18th Amendment by northern Democrats there is no issue more likely to break up the "solid South" politically than the re-advocacy of a tariff approximating free trade by that party.

From a financial standpoint the fathering of both issues must appear attractive to the political "outs," for the first named presumably would be adequately financed by distillers and brewers, and the second by the big international bankers and importers.

This opinion has been confirmed by comment in several southern newspapers, notably in the *Manufacturers Record* of Baltimore, and, although it is possible that the latter exaggerates the danger, its rallying cry to the friends of adequate protection is timely as expressed in the following paragraph:

"The fight against the tariff will be a long and heavy one. It will be backed by many of the largest financial interests of the country. Around it will rally all of the free-trade forces, enthused by the cooperation of many great business and financial interests which would rather buy the cheaply made stuff of foreign lands than maintain the wages and the prosperity of this country. In this case it will be America against the world, or the world against America, with the world backed by many of the strongest financial forces in this and in all other lands. Our newspapers will be filled with propaganda against the tariff. Many public men will be misled thereby. Millions of men who do not stop to study the situation, reading only these false statements, will join in the campaign for a low tariff or for free trade. It is, therefore, of prime importance that all the forces in this country, North, South, East and West, believing in the necessity of a protective tariff should be at work in hearty cooperation, not only in favor of maintaining our present tariff but even of making the tariff higher than it is at present, wherever that may be necessary to keep our industries at work, our laboring people employed and prosperity advanced, in place of all of these things being broken down by the competition of cheap labor of Europe and Asia."

To Cooperate for Textile Exhibit at Toronto

TORONTO, ONT., CANADA.—Directors of the Canadian Woolen and Knit Goods Manufacturers' Association and the Canadian Cooperative Wool Growers, Ltd., met in this city a few days ago and arranged to cooperate in the matter of the big textile exhibit to form part of the Canadian National Exhibition in Toronto this year. With 130 feet of display frontage, wool grown in all nine provinces of the Dominion will be shown, together with a small plant with 20 operatives, actually spinning, weaving and knitting on the latest machinery, and a finished goods display. It will be representative of the wool produced by 40,000 farmers keeping sheep in Canada, and the work done and produced in the 294 woolen and knitting mills in the Dominion.

Working on Kobe Conditioning House

The Department of Public Information, United States Testing Co., Inc., notes from Japanese press reports that preliminary work is progressing on the building of the conditioning house in Kobe. It is hoped that sufficient progress will be made before the rainy season starts to enable work to be taken up on a full scale on the arrival of settled weather.

1926 Wool Clip Estimate Shows Increase

WASHINGTON, D. C.—The wool clip this year is estimated at 269,054,000 lbs., an increase of 15,147,000 lbs. over 1925, according to the preliminary report of the Crop Reporting Board. The average weight per fleece is 7.8 lbs., the same as last year. Next January the estimates of the number of sheep shorn, the weight per fleece and wool production for the years 1920 to 1926 will be revised for all States on the basis of census information. These revisions will make some changes in total yearly production, according to the board, but increases or decreases from year to year are not expected to show much change from the present figures.

STROUDSBURG, PA. The Monroe Hosiery Mills, a new company which has recently applied for a charter of incorporation under the laws of Pennsylvania, Harry A. Feldgoise, Samuel E. Freedman and Robias Goldenberg, of Philadelphia, making the application, has purchased a tract of five acres here and will erect a brick and steel building 100 x 125 ft., for the manufacture of women's full-fashioned hosiery. Construction of the new mill will cost $50,000 and the machinery $86,000 with about $15,000 additional for installing. Approximately 100 hands will be employed.

June Wool Consumption

WASHINGTON, D. C.—The Department of Commerce announces the statistics on consumption of wool by manufacturers in the United States during June, based on reports received from 523 manufacturers operating 589 mills. The reporting mills which are included in this report are equipped with 53,662 looms, 4,969 sets of woolen cards, 2,116 worsted combs, and 3,486,184 spindles. This is exclusive of 21 manufacturers operating 73 mills, who failed to report for this month. According to reliable textile directories for 1925, these non-reporting mills are equipped with about 13,321 looms, 1,438 sets of woolen cards, 539 worsted combs, and 1,002,590 spindles. The total quantity of wool entering into manufacture as reported, reduced to a grease equivalent, was 28,249,220 lbs., as compared with 36,236,741 lbs. for May, 1926; and 38,176,337 lbs. for June, 1925. The monthly consumption of wool (pounds) in grease equivalent for manufacturers reporting for 1926 was as follows: January, 41,446,171; February, 40,491,996; March, 43,931,596; April, 40,093,383; and for May, 36,236,741. The total quantity of wool consumed by these manufacturers during June, 1926, was 32,373,259 lbs., as compared with 30,418,356 lbs. in May, 1926, and 32,045,444 lbs. in June, 1925. The consumption shown for June, 1926, included 24,559,337 lbs. in the grease; 4,906,981 lbs. of scoured wool; and 2,906,941 lbs. of pulled wool. The following tables show details:

(In Thousands of Pounds)

Class and Grade	Total for June 1926	Total Jan. to June incl. 1926	1925
Total	32,373	205,741	173,365
Domestic	14,588	82,109	67,520
Foreign	17,784	123,632	106,845
Combing[1]	18,092	112,487	94,396
Clothing[1]	5,907	35,099	29,192
Fine, total	6,467	44,665	38,187
¼-Blood, total	4,307	24,467	20,160
⅛-Blood, total	4,307	24,467	20,160
⅜-Blood, total	5,709	32,542	26,833
¼-Blood, total	5,628	34,220	28,586
Low ¼-Blood	1,062	6,965	5,912
Common, total[2]	66	565	499
Braid, total[2]	82	339	256
Lincoln, total[3]	684	3,820	3,136
Carpet, total[3]	8,373	58,154	49,781
Total, reduced to grease equiv[4]	28,249	240,449	202,186
Domestic	18,574	104,996	86,421
Foreign	19,674	135,452	115,765

[1]Exclusive of carpet wools. [2]All domestic. [3]All foreign. [4]In computing the grease equivalent, 1 pound of scoured wool is considered equivalent to 2 pounds in the grease; and 1 pound of pulled, to 1-⅓ pounds in the grease.

ALEXANDER CITY, ALA. Russell Mfg. Co. has confirmed report that it will erect new building 124 by 300 feet in which 314 looms will be installed to weave pajama checks. Russell Mfg. Co. will make Nainsook underwear for the jobbing trade.

FALL RIVER, MASS. The $80,000 attachment which was placed upon the Troy Cotton & Woolen Mfg. Co. last May by the Metacomet National Bank in an action of contract based on notes, has been discharged, settlement of the action having been effected.

TEXTILE CALENDAR

Chicago Yarn Men's Circle, Fifth Annual Golf Tournament, Park Ridge Country Club, Park Ridge, Ill., Aug. 12, 1926.

American Chemical Society, Golden Jubilee Meeting, Philadelphia, Pa., Sept. 6-11, 1926.

Boston Wool Trade Association, Tenth Annual Outing, Vesper County Club, Lowell, Mass., Sept. 21, 1926.

National Association of Worsted and Woolen Spinners, Annual Field Day, Manufacturers Country Club, Philadelphia, Pa., Sept. 22, 1926.

Second Southern Exposition, Grand Central Palace, New York City, Sept. 26–Oct. 6, 1926.

National Association of Cotton Manufacturers, Fall Convention, Copley-Plaza Hotel, Boston, Mass., Oct. 13-14, 1926.

Texas Textile Association, Annual Convention, Hotel Westbrook, Fort Worth, Texas, Oct. 15-16, 1926.

Southern Textile Exposition, Textile Hall, Greenville, S. C., Nov. 1–6, 1926.

Bibb Generating Station

Automatic Hydro-Electric Equipment to Be Installed

An automatic hydro-electric generating station soon to be installed by the Bibb Mfg. Co., Porterdale, Ga., will be designed to operate in parallel with the Georgia Railway & Power Co. system, will generate power for the Bibb plant and will improve power factor conditions at this point. The type of control used will be the first of its kind to be put in operation in this country.

The equipment will include two vertical waterwheel-driven generators rated 1500 kv. a., 750 kilowatts, 240 r. p. m., 2300 volts; three 38,000/2300-volt transformers, and a complete automatic switchboard. All the electrical equipment will be furnished by the General Electric Co., who evolved the method of operation.

The water power was formerly used to furnish mechanical power from horizontal wheels, and this old station will now be shut down. In tying in the automatic generating station with the public utility system, the 2300-volt bus will be connected to the 38,000-volt system through the three single-phase transformers connected delta-delta.

Power Factor Improvement

With the object of supplying as much leading or corrective current to the system as possible, a constant-current regulator will hold the full load of 1500 kv. a., on the generators, in contrast to the usual practice of maintaining constant voltage. It is expected to improve the plant power factor by this method from 77% to approximately 85%.

Power for running the Bibb plant will come from the public utility lines in parallel with the automatic generating plant. The two hydro-electric generators will operate automatically in sequence and will be governed by a float switch located at the forebay. At the minimum water level, one machine only will run, its entire output being made up of 1500 kv. a. loading, thus having a maximum corrective effect on the system. As the water level rises, the actual energy load on the generator will increase and the supply of loading kv. a. will decrease until, at the maximum load point, the 1500 kv. a. output will be made up of 750 kilowatts actual energy at 50% power factor, thus leaving 1300 kv. a. for corrective purposes.

At this point in the cycle, the second generator will automatically start, going through the same cycle until—providing the water level rises sufficiently—the two machines will be furnishing a total output of 3,000 kv. a. consisting of 1500 kilowatts actual energy at 50% power factor and leaving 2600 kv. a. for corrective purposes.

The machines run automatically under all normal conditions and will shut down automatically in case of trouble.

Yarn Contraction in Weaving

And a List of Symbols for Use in Cloth Formulas—Suggested for General Adoption

*By W. A. Graham Clark**

THE study of cloth calculations and the use of the most concise rules would be much aided if each factor had a standard symbol. There is of course a saving of both time and space in using symbols—for instance, in using the letter "T" in lieu of writing out "total single threads per square inch." Most writers now simplify their calculations by the use of symbols but vary widely in their choice of the letter to be used for any particular factor, and this is not infrequently the cause of confusion among those who attempt to use formulas prepared by different authorities. It would be well if the cotton trade and industry would adopt uniform symbols for the various factors that occur in cloth calculations. For convenience in remembering, the symbol used in each instance should be, where possible, the first letter of the factor for which it stands. There is given in the accompanying table a list of the symbols recommended for general adoption to represent the various cloth factors. These are followed by formulas embodying their use.

* Chief, Textile Division, U. S. Tariff Commission. Paper presented at meeting of Committee D-13 of the American Society for Testing Materials, Atlantic City, June 24, 1926.

Yarn Contraction

The width of the woven cloth is less than the width of the warp in the reed. The length of the woven cloth is less than the length of the warp from the slasher. The contraction (sometimes known as take-up or shrinkage) in length of the warp and filling yarns during weaving is affected by several factors; but, as it is due to the necessity of the two sets of interweaving threads bending out of their course to pass around each other, it depends primarily on the spacing of the yarns and on their diameters.

The subject of the percentage of contraction in length of yarns during weaving merits careful study. Upon a knowledge of the contraction to be expected of any particular combination of yarns and construction depends the reed to be used, the length of warp required to produce a definite length of cloth, and the anticipated weight of the fabric.

Fig. 1. Cross Section of Cloth

In the case of ordinary plainwoven cotton cloths—cloths in which there is not an excessive difference between the sley and the pick or between the warp and the filling yarns—the contraction in length of both warp and filling yarns can be ascertained arithmetically with a fairly close degree of accuracy. In such cloths both warp and filling bend out of their course at the points of intersection and any variation in the diameter of either the warp or the filling affects the contraction of both yarns. The average diameter of the two yarns is the diameter of the average yarn number.

The average yarn number can be ascertained by the formula: $A = \frac{TWF}{EF + PW}$, in which T = total single threads per square inch, W = warp yarn number, F = filling yarn number, E = ends of warp per inch of cloth, and P = picks of filling per inch of cloth. In "square" constructions, where the sley and pick are the same, this formula reduces to $A = \frac{2\,WF}{W + F}$. The diameter, in inches, of the average yarn count = $d = \sqrt{\frac{1}{840A}}$.

Geometrical Basis

Fig. 1 represents a cross section across the cloth and shows how a pick of filling is bent out of its course by having to pass over and under the warp threads. To show the relation of the original length of the filling to the distance covered by it in the cloth, there has been drawn a triangle having a vertical side marked *d*, a horizontal side marked *e*, and a hypotenuse marked *r*. The side *d* represents the distance from the center of a filling thread to the center of a warp thread at the point of intersection; and, since it is the average diameter of the two, it is the diameter of the average yarn number. The side *e* represents the distance between warp ends in the cloth and is

SYMBOLS FOR USE IN CLOTH FORMULAS

A = Actual average yarn number.
A'= Official average yarn number,as obtained by "straight line" method that disregards contraction of yarns in weaving.
B = Breadth(width) of cloth,in inches.
B'= Breadth(width) of warp in reed,in inches.
C = Cloth constant that allows for contraction of yarns in weaving and for sizing.
d = diameter of average yarn number,in inches.
E = Ends of warp per inch of cloth.
E'= Ends of warp per inch in reed.
e = distance between warp ends in cloth,in inches.
F = Filling yarn number.
H = Hank length,in yards. For cotton,H=840;for worsted,H=560;etc.
K = Kilos per 100 square meters.
L = Length of cloth,in yards.
L'= Length of warp,in yards.
P = Picks of filling per inch of cloth.
p = distance between picks in cloth,in inches.
R = Reed dents per inch.
r = distance between warp ends in reed,in inches.
S = Square yards per pound.
T = Total single threads per square inch.
U = One minus percentage of warp contraction.
V = One minus percentage of filling contraction.
W = Warp yarn number.
Y = Yards(linear) per pound.
Z = Ounces per linear yard.
Z'= Ounces per square yard.

UNIVERSAL FORMULAS(FOR CLOTH OF ANY TEXTILE MATERIAL)

BYT = Effective yarn length,in yards,per pound of cloth.

$BYT = AC = 36ST = \frac{16BT}{Z} = \frac{576T}{Z'}$

$A = \frac{BYT}{C} = \frac{36ST}{C} = \frac{16BT}{CZ} = \frac{576T}{CZ'}$

$C = \frac{BYT}{A} = \frac{36ST}{A} = \frac{16BT}{AZ} = \frac{576T}{AZ'}$

$B = \frac{AC}{TY} = \frac{36S}{Y} = \frac{36SZ}{16} = \frac{36Z}{Z'}$ $\qquad B'= \frac{B}{V}$

$T = \frac{AC}{BY} = \frac{AC}{36S} = \frac{ACZ}{16B} = \frac{ACZ'}{576}$ $\qquad E'= EV$

$Y = \frac{AC}{BT} = \frac{36S}{B} = \frac{16}{Z} = \frac{576}{BZ'}$ $\qquad L'= \frac{L}{U}$

$S = \frac{BY}{36} = \frac{AC}{36T} = \frac{16B}{36Z} = \frac{16}{Z'}$ $\qquad U = \frac{L'}{L}$

$Z = \frac{16}{Y} = \frac{16B}{36S} = \frac{16BT}{AC} = \frac{BZ'}{36}$ $\qquad V = \frac{R}{B'}$

$Z'= \frac{576}{BY} = \frac{16}{S} = \frac{36Z}{B} = \frac{576T}{AC}$ $\qquad R = \frac{VE}{\text{ends per dent}}$

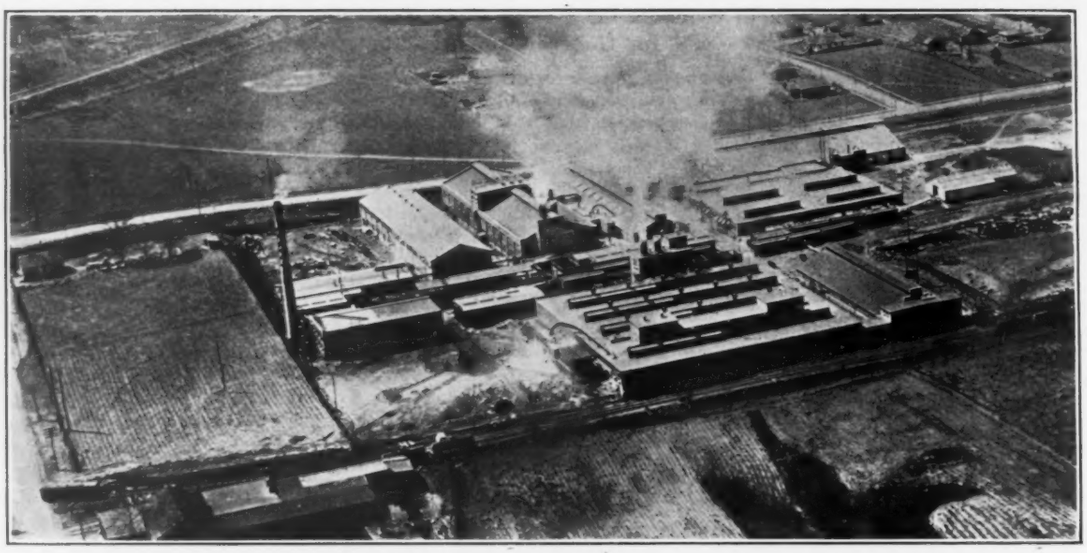
$K = \frac{1953}{BY} = \frac{54.25}{S} = \frac{1953Z}{16B} = \frac{54.25Z'}{16}$

Weight,in pounds,of warp and filling yarn in a linear yard of cloth:

Wt.of warp(unsized)= $\frac{\text{BE + extra selvage ends}}{UWH}$

Wt.of filling = $\frac{BP}{VFH}$

Symbols Suggested for General Adoption



Plant of Crane Enamelware Co. at Chattanooga—one of Tennessee's largest industries

America's Leading Industries Are Prospering in Tennessee

LIKE a page from "'Who's Who in American Industry" reads a list of some of the nation's greatest manufacturing enterprises that find it profitable to operate in Tennessee. Among them are Aluminum Company of America, Crane Co., Dupont Rayon, International Harvester, American Printing, United States Cast Iron Pipe and Foundry, American Brake Shoe and Foundry, Franklin Process, American Zinc, and Tennessee Copper & Chemical Company.

Today Tennessee ranks close to Vermont and Florida in output of marble and phosphates, and second to Michigan and New Jersey for the eastern part of the United States in production of copper and zinc. In textiles Tennessee is rapidly becoming a leader among Southern states, with 18% of the South's total spindleage installed in 1925.

Factors other than raw materials are also contributing to the successes of her manufactures. Eighty per cent of Tennessee's population is white with less than 1 per cent foreign born—affording ideal mill labor. Forty per cent of the country's population dwells within a 500 mile radius, creating a vast home market for Tennessee made products.

One of the greatest aids to Tennessee's progress is the tremendous amount of electric power available in the state. Already The Tennessee Electric Power Company has 269,000 h.p. in operation, and applications are now pending for the further development of 592,000 h.p. on the Tennessee River—aside from Muscle Shoals.

With natural advantages and diversified resources such as these, Tennessee offers many opportunities for the profitable investment of capital in enterprises requiring both male and female labor. Parties interested in immediate southern locations or future developments are invited to write us for information about Tennessee.

Read This Booklet

We have recently issued a 40 page booklet containing information about Tennessee's natural resources, raw materials, labor supply, transportation and power facilities, and other data of particular interest to textile manufacturers. Write for a copy.

The Tennessee Electric Power Co., Chattanooga, Tenn.

Build Your Mill in TENNESSEE

therefore the reciprocal of the sley. The hypotenuse r represents the distance between warp ends in the reed: this is clear as it is the length of filling required to produce a width of cloth equal to the distance between warp ends. The reciprocal of r is the number of warp ends per inch in the reed, which we may call E′.

Knowing the average yarn number and the sley, we know d and e, and the problem is to ascertain r. This is simple because the square of the hypotenuse of a right angled triangle is equal to the sum of the squares of the other two sides, therefore $r^2 = e^2 + d^2$.

Since $r = \frac{1}{E'}$, $e = \frac{1}{E}$, and $d = \sqrt{\frac{1}{840A}}$, the above formula can be changed by substitution to $\left(\frac{1}{E'}\right)^2 = \left(\frac{1}{E}\right)^2 + \frac{1}{840A} = \frac{E^2 + 840A}{E^2 \times 840A}$. From this we get the formula $E' = \sqrt{\frac{E^2 \times 840A}{E^2 + 840A}}$.

Having ascertained E′, by the above formula, the filling contraction percentage is obtained by subtracting E′ from E and then dividing by E.

Illustrative Example

A print cloth is woven with 64 ends of 30s warp and 60 picks of 30s filling per square inch. How much does the filling yarn contract in weaving? In this case the average yarn count $= A = \frac{TWF}{EF+PW} = \frac{124 \times 30 \times 39}{64 \times 39 + 60 \times 30} =$ 33.8s, and this measure $840A = 840 \times 33.8 = 28{,}392$ yards to the pound. $E = 64$. $E^2 = 4096$. Therefore,

$$E' = \sqrt{\frac{E^2 \times 840A}{E^2 + 840A}} = \sqrt{\frac{4096 \times 28{,}392}{4096 + 28{,}392}} = \sqrt{\frac{116{,}293{,}632}{32{,}488}} = \sqrt{3579.58729} = 59.830.$$

Then the filling contraction $= \frac{E - E'}{E} = \frac{64 - 59.830}{64} = 6.52\%$.

In the same way, the warp contraction can be obtained by using the same average yarn number and substituting P, the picks per inch crossed by the warp, in lieu of E, the ends per inch crossed by the filling. In this case, $P = 60$, and $P^2 = 3600$. Thus we have $\sqrt{\frac{P^2 \times 840A}{P^2 + 840A}} = \sqrt{\frac{3600 \times 28{,}392}{3600 + 28{,}392}} = \sqrt{\frac{102{,}211{,}200}{31{,}992}} = \sqrt{3194.89872} = 56.523$ and the warp contraction $= \frac{60 - 56.523}{60} =$ 5.79%.

In making practical use of the contractions above obtained we first obtain $U = 1 - .0579 = .9421$, and $V = 1 - .0652 = .9348$. The reed required $= R = \frac{VE}{\text{ends per dent}} = \frac{.9348 \times 64}{2} = 29.91$ dents per inch.

If the cloth width (B) is 38½ inches, the width of warp in reed $= B' = \frac{B}{V} \doteq \frac{38.5}{.9348} = 41.2$ inches. If the length of cloth (L), say the length of a cut, is 60 yds., the length of warp required $= L' = \frac{L}{U} = \frac{60}{.9421} =$ 63.7 yds. warp to produce this length of cloth. Assuming 24 extra salvage ends, the weight of warp (unsized) in a linear yard of cloth $= \frac{BE + 24}{UWH} = \frac{(38.5 \times 64) + 24}{.9421 \times 30 \times 840} = \frac{2488}{23{,}741} = .10479$ lb.; if 6% be added for sizing, the weight of the sized warp $= .10479 \times 1.06 = .11108$ lb. The weight of the filling $= \frac{BP}{VFH} = \frac{38.5 \times 60}{.9348 \times 39 \times 840} = .07543$ lb. The weight of the cloth produced will therefore be $.11108 + .07543 = .18651$ lb. per linear yard and the reciprocal of this shows that the yards per pound $= Y = 5.36$.

For the above illustration of the method of obtaining the percentages of contraction of warp and filling yarns during weaving, and of the practical uses made of the contractions so obtained, there has been used the cotton cloth that is most typical of the American industry so that the accuracy of the calculations can be readily checked by anyone familiar with the cotton industry.

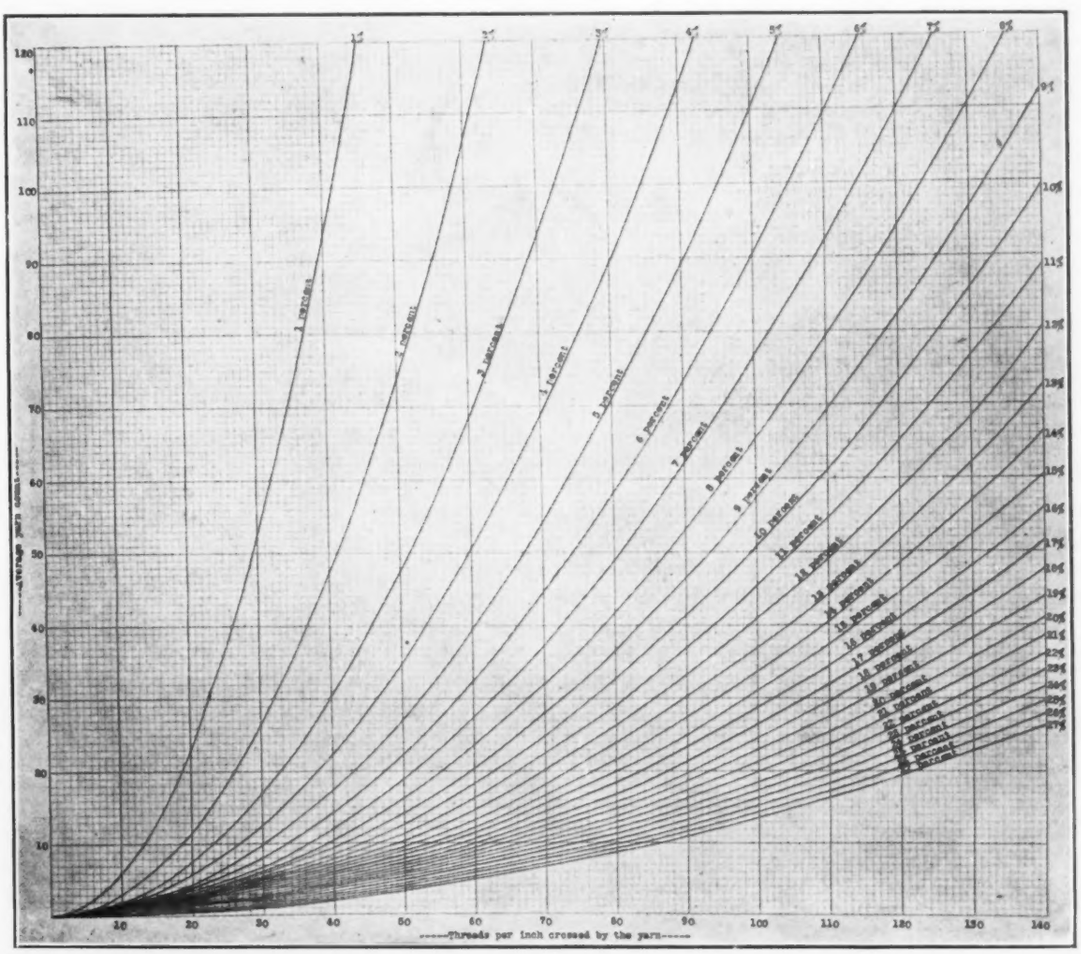
Use of Chart

The accompanying chart, entitled "Yarn Contraction Percentages in the Weaving of Ordinary Plain Cotton Cloths," has been prepared so that one can see at a glance the contraction that will be obtained with any particular combination of yarns and construction. The curves for the various yarn contraction percentages have been plotted from the formula $E = \sqrt{\frac{840A}{V^2} - 840A}$, which has been derived from the yarn contraction formula $E' = \sqrt{\frac{E^2 \times 840A}{E^2 + 840A}}$ after substituting EV for its equivalent E′.

As an illustration of the method of using the chart we may take the same fabric as given in the example above; that is, a print cloth made of 64 ends of 30s warp and 60 picks of 40s filling per square inch. As previously ascertained, the average yarn number or count is 33.8s. To find the warp contraction, we note the point of intersection on the chart of 33.8 average yarn number with 60, the picks per inch crossed by the warp. It is found to lie between the 5% and the 6% yarn contraction curves and to be so much nearer to the latter that it is obviously around 5¾%. To find the filling contraction we note the point of intersection on the chart of 33.8 average yarn number with 64, the ends per inch crossed by the filling. It is found to lie just about halfway between the 6% and the 7% yarn contraction curves and is therefore about 6½%. From the use of the chart we would therefore, for the cloth specified, take the warp contraction to be 5¾% and the filling contraction to be 6½%.

Belgian Cotton Weavers Book Large Orders

WASHINGTON, D. C.—Good business was done by Belgian cotton manufacturers during June, according to a report received by the Department of Commerce from Consul Clinton E. MacEachran at Ghent, based upon information obtained from local cotton merchants and manufacturers. The export demand was especially good, coming mainly from South America, particularly Argentina. Do-



Yarn Contraction Percentages in the Weaving of Ordinary Plain Cotton Cloths

Bradford Advertises Its Fast-Color Process — *thanks to Kaumagraphs*

Based on an interview with an official of the Bradford Dyeing Association (U.S.A.)

Wrigley dared to do it with chewing gum. Uneeda dared to do it with soda crackers. Now Bradford is taking the dare in another business where others said "it couldn't be done."

For Bradford is the first in the dyeing industry to advertise in an organized way. Now it is telling retailers and consumers, as well as converters and manufacturers, that fabrics dyed by Bradford are really fast color. Now it is urging buyers, for their own protection, to look on the selvage for the Bradford process mark, *B. D. A. (U. S. A.)* GUARANTEED FAST.

Kamaugraph mark basis of advertising

"But our entire policy of merchandising and advertising has largely been made possible," says a Bradford official," "by the use of Kaumagraph Transfers."

"For Kaumagraphs offered a practical method by which we could stamp our process mark on the fabrics we dye. Without such identification, carrying out our advertising would have been very difficult. Customers would never know what they were getting. Unscrupulous dealers could substitute undependable goods for Bradford-dyed fabrics. There would be no close tie-up between our advertising and the demand our advertising creates."

Identifies the Dyer

"The use of Kaumagraphs," says this Bradford official, "eliminated once and for all, every one of these dangers. By means of Kaumagraphs, our guarantee process mark is stamped along the selvage by machine, at intervals, alternating with the mark of the customer. We insist upon placing our mark in this way on every piece of fast color fabric we dye, for it is the only means by which we can trace whether or not the goods were dyed by us."

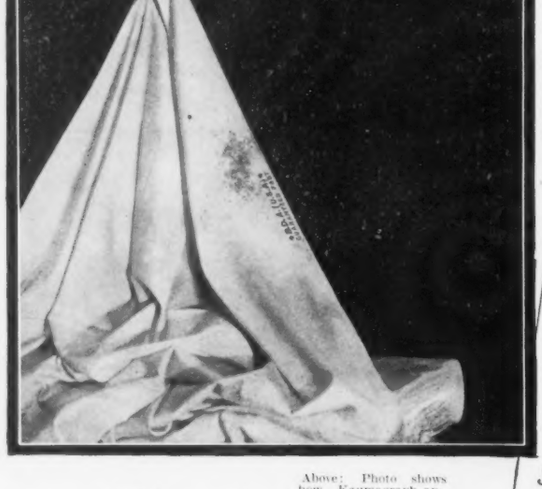
* * *

The Kaumagraph Transfer method is the only practical method of applying trademarks to hosiery, silks, cotton goods, woolens, and other textile fabrics.

With Kaumagraphs you can stamp your trademark on the fabric in any color—with a beautiful mark that won't smudge or discolor. Kaumagraphs can be applied by machine along the selvage; by hand in one second as an end stamp; or on the toe of hosiery.

Kaumagraph's Service Department offers you a helpful untiring assistance in designing or applying a trademark. Kaumagraph's Lithographic Department offers unequalled service in quality and prompt deliveries, on such lithographic requirements as board end labels and hosiery packing.

This twin Service is without parallel — only Kaumagraph offers it. We urge you to send the coupon below today for samples of our Lithographic work and of Kaumagraph Transfers, to learn how Kaumagraph's Twin Service can serve you.



Above: Photo shows how Kaumagraph-applied process mark of Bradford Dyeing Association (U. S. A.) appears on Bradford FAST COLOR fabrics. At right: Typical Bradford advertisement showing how this company is teaching the public to look for its Kaumagraph - applied process mark. Bradford's board end labels are also obtained from the Kaumagraph Company, through its lithographic department.

KAUMAGRAPH CO.
350-356 West 31st St., New York City.

Please send us samples of Kaumagraph's Twin Service, together with full information.

Name .....

Address .....

T.W.-8-7

nestic demand for cloth was good but somewhat less than last month. Orders booked by the weavers are estimated to be sufficient for several months operations.

June business in cotton yarns was quiet, and few orders were received, the demand being chiefly for coarse counts. The export demand fell off, being estimated at about 20% of production whereas normally the export demand is for about 35% of the production. Prices were steady and quotations were made mainly on a sterling basis.

The Ghent cotton market was quiet and little business was transacted. Whatever sales were made were mainly for American cotton.

Women Urge Continuance of N. C. Labor Survey

SYLVA, N. C., July 31.—In a statement issued here Mrs. E. L. McKee, president of the State Federation of Women's Clubs, says that to postpone the proposed survey of women in industry to await action by the legislature would not be, as Governor McLean said, a delay of five months, but a delay of two years and five months. She says the survey is wanted as the basis of legislation and without it the facts needed during the session of the legislature will not be available. If the legislature should authorize the survey the facts developed would not be available for legislative action until the next session, two years away. With the survey made now under direction of the Governor, the facts would be available for the incoming session which meets in January.

Mrs. McKee declares that because accurate information is not available as to labor conditions in North Carolina the State is being maligned and misrepresented and cites the instance of William Green, president of the American Federation of Labor, speaking before the meeting of the General Federation of Women's clubs and singling out North Carolina for its "dreadful labor conditions."

Mrs. McKee who attended the convention, says she does not believe the facts warrant any such onslaught. She did not have the information needed to enter a denial. She recognizes that it is easy for agitators to make sweeping allegations that have little if any basis in fact, but believes the same kind of denial is generally futile. With such a survey as the women want accomplished, we would at least know where we stand, she says. If the agitator is right we would know how to go about remedying the situation; if he is wrong, we would have the facts to silence him.

WEBSTER, MASS. Work has been started at the mills of S. Slater & Sons, Inc., to change the oil burning boilers back to coal burning which investigation has shown is more suitable. The change was made when there was a shortage of coal about two years ago and oil was cheaper than it is today.

America's Apathy to Linen

British Manufacturers Confronted With a Serious Decline in Purchases by the United States

By Alfred S. Moore, Belfast, Ireland

IT would seem that at last British linen manufacturers are becoming seriously confronted with the enormous decline in the buying of linen by the United States and are considering how to check it in all ways possible. Certainly the British linen trade with this country cannot be stated to be in any encouraging condition just now when it is seen that in piece goods alone the purchasing by the United States has dwindled from 39,053,800 sq. yds. during the first six months of 1924, and 26,272,300 sq. yds. for the similar periods a year ago, to only 19,765,690 sq. yds. for the first half of the present year. This represents a decline of as much as 50% during the last two years and it cannot be averred that there are any great hopes of improvement in the near future.

Various suggestions have been put forth in explanation but these are not altogether satisfactory. Thus the influence of prices has been mentioned in considering why United States imports of linens during 1925 were valued at only $43,876,000 compared with $51,882,000 during 1924. It has been suggested that quotations during 1925 were (taking the whole year) about 14% lower than in 1924, and therefore, in volume of business there has been little or no falling off. Then in 1924 prices of linen cloths were advanced 25% over 1923, and in 1925 they began to return to the old level. Now in the middle of 1926 they are much lower than they were in 1924, or even at the end of 1923. So that from the highest prices quoted on the middle of 1924 prices have now been brought down fully 25%.

Nevertheless, while this argument may be plausible it does not meet the fact that the bulk bought has materially decreased and not increased in proportion to the gigantic increase in wealth and population of the United States during these years. What cannot be overlooked is that the increase in the country's population between 1920 and 1925 is estimated at more than ten millions.

Waning Since 1870

But the feature still more extraordinary in the tremendous decline of the United States as a linen consuming people during recent years is that its demand for flaxen fabrics has been steadily waning since about the year 1870. Thus while the linen piece imports last year were only around 40,000,000 sq. yds., the corresponding imports about half a century ago stood at about 85,000,000 sq. yds. or roughly more than double, despite the vastly smaller population and lesser wealth.

The greatly increased tariff, amounting on an average to nearly 53%, must certainly be a very important deterrent cause for the present decreased linen buying of the United States. However, even before the imposition of the 1922 tariff duties the demand for British linens had decreased considerably.

Meanwhile the preference given by the British Dominions to British made linens tends to compensate slightly. And in this connection, it is estimated that while the United States now expends about one shilling yearly per head of population on British linen goods, Canada expends twice that sum per head. Australia correspondingly (with New Zealand) stands higher with five times per head better linen buying than the United States.

While the anomaly of this great transatlantic decline in linen consumption is just now troubling Irish linen manufacturers some authorities attribute it as due to the indifferent salesmanship methods pursued, as compared with the intensive policy in regard to the very attractive rival cotton goods. Certainly it would seem that if British linen is to regain some portion of its lost position in American favour the changed post war conditions must be met by more up to date methods of marketing.

Power Data Sheets

By F. S. Root

POWER REQUIRED TO OPERATE CARPET & RUG WEAVING MCHY. 1

PRODUCT.
Grass carpets and rugs, woven from swamp-grasses.

Total Connected H.P. of motors in this plant, 170.
Load Factor, = 42.5 %
Average Monthly Consumption. = 15,000 K.W. Hrs.

MOTORS & LOAD

20 H.P. Motor, belted to 160 feet of line-shaft, driving the following —

4 Crompton & Knowles 9 foot looms,
2 Crompton & Knowles, 6 foot looms,
7 Crompton & Knowles, 4½ foot Looms.
(CONT.)

POWER REQUIRED TO OPERATE CARPET & RUG WEAVING MCHY. (CONT.) 2

2 Crompton & Knowles 3 foot Looms.
2 Lever & Grundy Spoolers.
2 Universal winders
2-6 ft. shearing mchs
1-20" Upright Drill
1 Emery Wheel

50 H.P. Motor, belted, through friction-clutch, to 175 feet of line-shaft, driving the following —

8 Crompton & Knowles, 9 foot Looms.
3 Crompton & Knowles 6 foot Looms
1 Crompton & Knowles 4½ foot Loom.
(cont.)

POWER REQUIRED TO OPERATE CARPET & RUG WEAVING MCHY. (CONT.) 3

8 Crompton & Knowles 3 foot Looms.
1 Set calender rolls (two high, rolls 12' long, 12" dia.)

20 H.P. Motor, belted to 175 feet of shafting driving —

2 Beamers, 8 Oswald-Lever Co., 14 spindle cop-winders., 1-9 foot shearing machine.

20 H.P. Motor, belted to 250 feet of Shaft, driving —

1- Dederick's, 20"x21" hay press, 18 spinning machines, 1-18"x100' hay-conveyor.

15 H.P. Motor, belted to 65 feet of shafting driving —

6- spinning machines,
1- C.P.W. hay-press.
(cont.)

POWER REQUIRED TO OPERATE FRINGE MAKING M'CH'Y. (CONT.) 3

¼ H.P. Motor, belted to spinning-wheel, covering cotton-yarn with silk. [4 strands of silk, over 15 of cotton.]

½ H.P. Motor driving a Cord-twisting machine [60 strands of mercerized cotton]

½ H.P. Motor, driving an 18" swing engine-lathe, 8" emery-wheel, and one Widmer fringe loom [3 bands of fringe, 20 harnesses, 4 shuttle boxes per band.]

3 H.P. motor belted to a ½ ton freight elevator.

½ H.P. motor, belted to a Cord Twister, [60 strands of Mercerized Cotton]

⅛ H.P. Motor, driving an Eastman Twenty-spool Winder.

Above is presented the nineteenth group of a series of test records showing the power required to operate textile machinery.

Sports stockings that radiate the charm of rayon.

Du Pont Rayon reeling assures excellent winding.

Du Pont Rayon adds Glamour to the Sports Stocking

DARING stripes, checks and plaids for women's woolen sports stockings are most eagerly sought these days! These can be made even more dashing and colorful when rayon is used — with either light-weight or heavier wools — to carry out the smart designs that captivate feminine fancy.

Whether you specialize in the finer grades of sports hose, or in the less expensive ones with a broad popular appeal, you will be wise to use only a superior quality of rayon. The soft, lustrous beauty of DU PONT RAYON — with its tensile strength and excellent coverage — assures satisfaction, not only to yourself but to your customers and the ultimate consumer.

DU PONT RAYON CO.
BUFFALO, N. Y.

Branch Sales Offices:
132 Madison Ave.
New York City
31 North 6th Street
Reading, Pa.
Old Hickory, Davidson County, Tenn.
569 Mission Street
San Francisco, Cal.
408 Woodside Bldg.
Greenville, S. C.

Branch Sales Offices:
Jefferson Standard Bldg
Greensboro, N. C.
Rhode Island Hospital Trust Bldg.
Providence, R. I.

Canadian Agents:
Wm. B. Stewart & Sons Limited
64 Wellington St., W.
Toronto

DU PONT RAYON

REG. U.S. PAT. OFF.

Probabilities Still Favor Cotton Decline

Rise in Price Late in July Discounts Possibility of Crop Less Than 14¾ Million Bales—Statistics of Distribution Do Not Yet Show Basis for Sustained Recovery in Goods Market—Cotton Yarn Barometer Points Downward—Charts Show Trend

THE day-to-day ups and downs on the Cotton Exchange are highly speculative in character, as they depend almost entirely upon the weather as affecting the new crop and at such times as the present, the prevalence of a high degree of uncertainty encourages erratic fluctuations and allows considerable manipulation of values. The Analyst is not concerned with these things, but with the trend over a longer period of time. It is, therefore, important to inquire what ***certainties*** are there in the situation.

The Known Facts About Cotton Continue Moderately Bearish

The outstanding certainty at the present time is the large acreage that has been put into cotton. The Government estimates the acreage at 48,898,000 and allowing for average abandonment the basis for figuring the crop would be over 47,000,000 acres. This is a very large figure. It is certain that only a very small yield per acre can prevent a large crop.

A second certainty concerning the crop is that cotton has not yet suffered sufficient damage to prevent an average yield. In other words, there is absolutely no certainty that a period of favorable weather during August would not bring an improvement in the condition of the crop sufficient to bring it up close to the earlier estimates.

Still another certainty is a large carry-over. We know that the world carry-over of American cotton will be somewhere in the neighborhood of 6,000,000 bales and will be the largest since 1921. It is certain that total stocks of raw cotton in warehouses and mills are unusually large, both absolutely and in comparison with current mill consumption.

Finally, we know that the cotton goods industry is on the whole in a depressed condition both here and abroad and has been so for a good many months. In June both the volume of wholesale dry goods sales in the United States and the sales of New York cotton jobbers, showed a slight downward trend and were lower than a year ago. Spinners' margins are very low indeed, and must tend to restrict their purchases of raw material.

The foregoing list of known factors or conditions is not calculated to support any sustained advance in the price of raw cotton. Of course, the fact that it is not yet too late for a substantial recovery in the condition of the crop implies that there is also the possibility of a poor condition and low yield per acre. Our point is merely that this possibility is highly speculative. It has, moreover, been discounted in large part by the advance in cotton prices during the latter part of July.

The possibilities of a poor yield are chiefly due to the prolonged period of cool, rainy weather that has affected large parts of the cotton belt. This has unquestionably caused a rank growth of the cotton plant which has delayed "fruiting," causing an unusually small amount of the bolls to set, up to the present time. The so-called "hopper flea" appears to have caused more or less damage, but the best opinion is that this is not a serious factor. More important is the lateness of the crop which makes it subject to damage by rains, frost and the boll weevil, toward the end of the season.

Textile World Analyst

An analysis and forecast by Dr. Lewis H. Haney, Director, New York University, Business Research Bureau, who considers various branches of the textile industry from week to week. The conclusions reached in the Analyst are mostly forecasts and generally apply to a time two or three months ahead. The Analyst is based on statistical data and does not reflect temporary trade sentiment.

SUMMARY—COTTON

1. The only certain and known facts indicate a crop of 14¾—15 million bales. The rise in price late in July appears to have discounted the *possibility* of a smaller crop than this. The *probabilities*, therefore, favor a decline. While recognizing the possibility of more serious crop damage, the facts actually known at present indicate something like 17c spot cotton at New York.

2. Improved textile sentiment has recently been reflected in better buying of gray goods, but available statistics do not yet show a basis for sustained recovery. Our yarn barometer still points slightly downward.

In spite of these unfavorable possibilities, however, the fact of the large acreage remains and most observers agree, also, that Texas is reasonably certain to produce a much larger crop than last year. The Government's estimates on July 16 centered around 15,368,000 bales. Subsequent private estimates appear to center around 14,750,000 bales. Our feeling is that the most reasonable procedure at the present writing is to assume that the possibilities favor something not much under 15,000,000 bales.

We believe that if the new crop is around 15,000,000 bales, or even if it is as low as 14,750,000, the price of around 17c for spot middling cotton at New York would be probable. If the crop were to be as small as 14,000,000 bales, or a little less, a reasonable price would appear to be close to 19c, and in our opinion recent quotations have discounted the possibility of such a crop. If, however, the crop were to turn out a large one, as is possible, and run to 16,000,000 bales or over, it seems to us probable that the price might fall as low as 15c.

A Large Crop Still Possible; 20,000,000 Bales of American Cotton Far Exceeds Probable Consumption

Our first chart this month shows the two estimates that have been made by the Government thus far and enables a comparison of these with the successive estimates made in other recent years. The following points are clear: ***(1) The figures that are considered most probable by the Government for this year's crop are far above the opening estimates of any recent year.*** In fact, they are exceeded only by the final estimates made last year. (2) The maximum figures mentioned by the Government are greater than even last year's large crop. (3) The minimum figures are about equal to the final estimate of the 1924 crop and are above the lowest estimates made last year. (4) It will be noted that ***in the two years shown in the chart in which the Government's second estimate was reduced, as it has been this year, there was a sharp increase toward the end of the season, which shows how crops that***

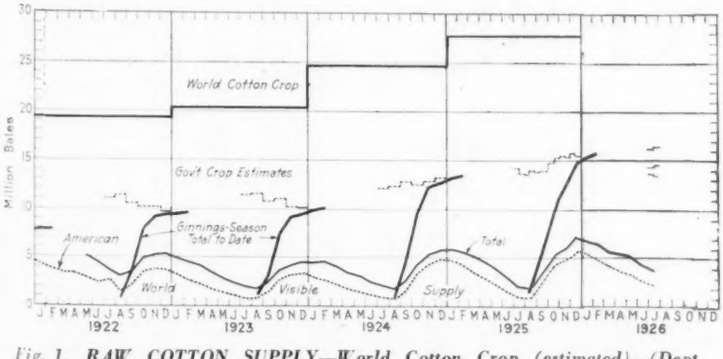


Fig. 1. RAW COTTON SUPPLY—World Cotton Crop (estimated)—(Dept. of Agriculture). Government Crop Estimates—Solid lines for December indicate actual domestic crops (Dept. of Commerce). Ginnings—Cumulative for season to end of month shown. (Dept. of Commerce). World Visible Supply (American and total), as of the Saturday nearest the end of month (Commercial and Financial Chronicle).

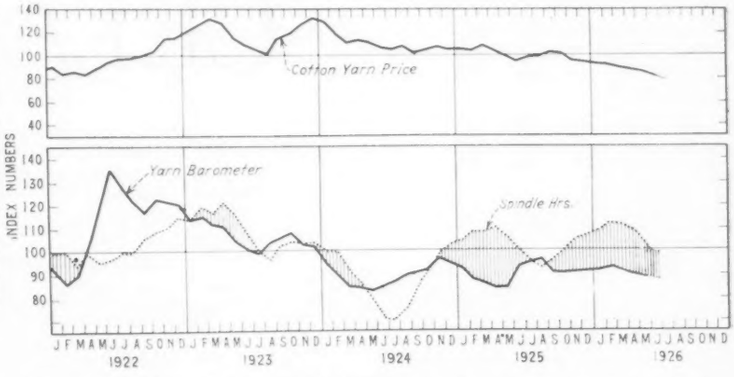


Fig. 2. COTTON YARN BAROMETER—Cotton Yarn Price—TEXTILE WORLD Index. Spindle Hours—Three-month moving average (Dept. of Commerce). Yarn Barometer—Based on orders for cotton cloth. Average of recent years = 100 for all indexes.

Perspiration cannot injure it

CELANESE brand yarn can be immersed in sea-water for months without absorbing any appreciable amount of water. It is just as resistant to perspiration.

It will not stain nor rot even when worn continually throughout the year. And white Celanese brand yarn never yellows with time.

In these respects, as in many others, this beautiful fiber reveals its unique character. Both chemically and physically it is altogether different from rayon.

Celanese brand yarn is neither silk nor rayon. It has distinctly different properties from rayon. ¶ It is highly elastic and remarkably durable; and it has unique hygienic qualities. ¶ Dyed with its special SRA dyes, it is fast to sun, suds, salt-water and perspiration.

CELANESE
REG. U.S. PAT. OFF.
BRAND YARNS

The AMERICAN CELLULOSE & CHEMICAL MANUFACTURING COMPANY, *Ltd*

15 EAST 26TH STREET, NEW YORK

WORKS AT AMCELLE (NEAR CUMBERLAND) MARYLAND

CELANESE is the registered trademark, in the United States, of The American Cellulose & Chemical Manufacturing Company, Ltd., to designate its brand of yarns, fabrics, garments, etc.

have apparently been ruined by insects or weather may be restored.

The chart also shows the visible supply of cotton and it will be noted that on top of the estimated good crop this year, the visible is much larger than in any recent year. At the end of July the world visible supply of all cotton is estimated at 3,686,000 bales against 2,343,000 bales a year ago. The visible supply of American cotton is estimated at 2,284,000 bales against 1,113,000 bales last year.

Thus the supply situation is certainly very easy, and this alone fully explains why the New York spot price has recently been around 19c. against 24c a year ago. Judging by supply alone, the present crop outlook would probably warrant 19c for spot cotton at New York. It is, therefore, important to inquire as to the price of cotton goods and the demand therefor.

A year ago the prices of goods and yarns were considerably higher than they are now. Last year, too, the volume of wholesale dry goods sales was larger than this June and the same may be said of the sales by cotton jobbers. The orders for finished cotton goods were about the same, but the production was relatively smaller, so that the adjustment between demand and supply was such as to support higher prices. In a word, we find no indication that the easier supply situation this year will be offset by a stronger demand. If anything the demand is at present weaker, and thus tends to work in the same direction as the large supply.

The outlook for cotton consumption next year is decidedly mixed, but on the whole does not make any large increase seem probable. Possibilities in Germany and Japan seem to be offset by less favorable prospects in France and England. With a supply of American cotton including carryover, of over 20,000,000 bales and no probability of consumption of much over 14,000,000 bales, the cotton market should rule easy.

Yarn Barometer Has Not Turned Up Yet; Expansion of Production Dangerous

Our second chart shows the trend of yarn prices and of our yarn barometer. Cotton yarn in July averaged the lowest since the month of August, 1921. It made little, if any, response to such advances as occurred in the raw material or in gray goods. This is in accord with the yarn barometer which, based on the latest available data (June), is still unfavorable. ***The yarn barometer continues to point downward for the simple reason that production of yarns, as measured by active spindle hours, is still high in comparison with the demand for yarns, as measured by the sale of cotton goods. Such firmness as has developed in the yarn markets appears to be due entirely to the upturn in raw cotton and thus depends upon the speculative anticipation of crop damage.***

Until the demand for yarns becomes much stronger than has yet been the case, it continues true that expansion of spindle hours would be premature and would threaten the stability of markets later on. Yarn is too low in comparison with raw cotton. The spinners' margin on a replacement basis is the lowest since the bad month of July, 1924. The logical remedy, however, appears to lie in a renewed decline in raw cotton and curtailment of spinning rather than in higher yarn markets.

While the Analyst is aware of the current trade reports of improved inquiries and has noted the rise in gray goods, we have no certain statistical basis except that furnished by the June figures. These show: (1) Very low sales by New York cotton jobbers; (2) downward trend in wholesale dry goods sales; (3) decreased orders of finished goods. Certainly, therefore, the June demand for cotton goods can not have been satisfactory. Such improvement as has occurred in July (and it is currently reported as considerable) is probably chiefly due to the stimulus of higher raw materials and its continuance is as uncertain as the weather.

Furthermore, the figures of the National Association of Finishers of Cotton Fabrics show that billings (which may be taken to represent production) are large in comparison with orders, a condition which can hardly continue long without an increase in stocks. It is true that owing to the relatively large shipments of finished goods, stocks have been reduced in recent months, but unless orders pick up, or production is curtailed more rapidly, the decline in stocks must soon be checked. In spite of the decline, stocks in June were about the same as a year ago.

The formation of the Cotton Textile Institute is certainly a constructive factor and much is to be accomplished in the long run by educating manufacturers concerning costs and supply conditions, and by stimulating demand for cotton textiles. Timely, accurate, and comprehensive data must in the long run tend to stabilize the industry and put it on a sound basis. Such constructive work, however, takes time, and it is to be doubted if the new Institute can expect to become a market factor of importance in the near future.

TEXTILE WORLD Cotton and Wool Index Numbers

COTTON INDEX NUMBERS

Date 1914	Cotton	Yarns	Gray Goods	Colored Goods	Aver. for Cloths	Group Average
July 31.....	100	100	100	100	100	100
1919						
January	235	278	280	295	288	279
April	228	221	228	238	233	226
July	283	321	372	292	330	321
October	278	324	387	320	351	387
1920						
January	314	448	464	411	435	427
April	339	531	498	416	455	460
July	327	425	405	423	414	407
October	190	229	248	362	308	282
1921						
January	131	142	176	203	190	175
April	97½	116	138	182	161	147
July	97½	112	133	176	155	141
October	160	179	198	208	203	193
1922						
January	146	168	174	206	191	182
April	144	156	168	209	189	178
July	178	182	190	200	195	189
October	177	192	206	201	203	197
1923						
January	225	225	220	230	225	225
April	231	239	224	242	233	234
July	217	197	190	236	212	211
October	237	222	212	225	219	219
1924						
January	278	241	228	243	236	239
April	220	211	192	194	193	198
July	270	198	186	191	189	196
October	195	196	187	189	188	199
1925						
January	192	197	195	173	184	187
April	196	194	193	180	187	188
July	197	183	185	176	181	182
October	174	189	193	178	186	186
1926						
January	167	175	177	162	170	171
February ...	165	172	176	160	168	169
March	155	166	168	157	163	163
April	153	163	161	155	158	159
May	151	157	158	153	156	155
June	149	152	153	152	153	152
July	149	149	151	141	146	147

JULY INDEX NUMBERS

THE most significant features of both the cotton and wool indexes for July were the increased stability of raw material and yarn prices, and the fact that yarns and cloths, with the exception of wool goods, have touched a basis far below prices that have obtained in recent years when raw materials were selling much lower. In February, 1922, for instance, when the cotton index was 141, yarns were 157 and gray goods 165. And in June, 1922, with the wool index at 178, tops were 209 and yarns 195.

At the end of July the wool index was 174, tops 181 and yarns 190. The well warranted advance in tops asked early in July was not maintained despite a firmer wool market and although a slight advance was held by yarns. Downward revision of cloth prices to a basis more nearly proportional to the relatively low value of wool, tops and yarns has caused temporary pressure for lower prices of new materials and indicates that the new cloth prices are lower than warranted by current values of raw materials.

In the cotton division of the market gray cloths have shown a notable advance of 7 points as compared with an advance in cotton of 6 points. The gray cloth index at the end of the month was 155 and that of raw cotton 153. Yarns remain unchanged. The group index for the last week of July was 148, as compared with an average for the month of 147.

Inquiries regarding interpretations and use of the index numbers may be addressed to TEXTILE WORLD, Statistical Department, 65 Franklin St., Boston, Mass.

WOOL INDEX NUMBERS

Date 1914	Wool	Tops	Yarns	Cloth	Group Av'ge
July 31.....	100	100	100	100	100
1919					
January	272	296	290	237	273
April	242	282	273	237	253
July	269	290	238	237	272
October	286	338	384	240	294
1920					
January	304	335	412	310	336
April	276	334	448	331	352
July	241	258	384	320	315
October	189	213	302	304	276
1921					
January	129	148	186	224	193
April	120	148	177	192	173
July	112	139	172	192	170
October	114	135	162	188	165
1922					
January	128	163	179	182	173
April	165	185	185	184	182
July	189	202	196	188	193
October	199	209	208	191	199
1923					
January	212	225	227	203	213
April	222	230	234	225	228
July	222	223	233	228	227
October	205	213	222	224	220
1924					
January	217	227	221	223	223
April	216	230	223	219	221
July	191	209	212	219	213
October	227	237	224	226	228
1925					
January	264	268	253	228	244
April	219	254	230	241	238
July	216	217	216	239	227
October	216	212	212	227	220
1926					
January	215	213	211	229	221
February	209	208	208	226	217
March	198	199	204	224	212
April	181	193	198	224	208
May	177	191	192	224	206
June	173	183	188	220	202
July	173	184	189	215	199

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THE PERSONAL PAGE

Harry V. Campbell, New York, was elected vice-president of the Bigelow Hartford Carpet Co., Thompsonville, Conn., to succeed John F. Norman, who became president of the company in February. Mr. Campbell has been connected with the New York office for the last 26 years, and will also continue in the capacity of sales manager.

A marriage license was recently granted in New York to H. C. Aberle, H. C. Aberle Co., Philadelphia, and Ruth C. Greene, of Waterbury, Conn. Mr. Aberle resides on Lennox Road, Jenkintown, Pa. Miss Greene is the daughter of Hugh Greene, of South Royalton, Vt. They will be married in New York on Aug. 27. Mr. Aberle is one of the prominent hosiery manufacturers of Philadelphia and is also a member of the Union League and Manufacturers' Club in that city.

Parker Corning, president of the Albany (N. Y.) Felt Co., has been nominated for another term by the Albany County Democratic organization as Congressman from that district.

Robert Steel, son of Phil Steel of Mauney-Steel Co., Philadelphia, recently returned to this country after having spent several months in Italy, as a member of the San Carlo Opera Co. Mr. Steel is one of the leading baritones in the country and in a short time will start on a concert tour with three other artists, one being Elsie Janis, which will last until the first of next year.

F. A. Howarth and Andrew P. Howarth of A. Howarth & Son, Oxford (Mass.) Woolen Mills, accompanied by their wives, are on an automobile trip through Vermont and Canada.

An inventory puts the personal estate of William L. Turner, formerly president of the North American Lace Co., Philadelphia, who died on May 23 last, at $621,642. Mr. Turner was one of the leading factors in the lace manufacturing business in this country.

Thos. H. Ball, Philadelphia, Mrs. Ball and their two daughters have been spending the last three weeks touring along the New England coast, visiting numerous summer resorts. Mr. Ball expects to return to his office within a few days.

A. L. Strang, president of the Mechanicville (N. Y.) Knitting Co., and family, have returned from a tour of the West which included a sojourn at Yellowstone Park.

Edwin Corning, treasurer of the Albany (N. Y.) Felt Co., will return from a several weeks' vacation in Maine on Aug. 2.

Harold G. Connolly, who for the last two years has been in charge of the cotton department of E. A. Shaw & Co. as cotton classer at New Bedford, Mass., has resigned his position to accept the appointment of chief cotton classer for the Arkansas Cotton Growers Association. Mr. Connolly will make his headquarters in Little Rock, Ark. He is a member of the Boston Arbitration Board and an auxiliary member of the New York Board.

N. F. Walsh, president of the Electric Knitting Co., Cohoes, N. Y., has returned from a sojourn at Spofford, N. H.

Conyers Read, treasurer of Wm. F. Read & Sons Co., Philadelphia, and his wife and daughter sailed recently for a vacation trip to be spent in traveling abroad.

H. P. Harrower, secretary of L. E. Harrower & Co., knit goods, Hagaman, N. Y., and family are now occupying their summer home at Lake Pleasant, N. Y.

C. E. Hardies, for many years treasurer of the Van Brocklin & Stover Co., Amsterdam, N. Y., is passing several weeks at his summer home at Oxbow Lake in the Adirondacks.

Edwin N. Bartlett, treasurer of the Edwin Bartlett Co., North Oxford, Mass., will be a republican candidate for State representative in the new Sixth Worcester district at the September primaries.

John E. Thayer, Jr., a director of the Hamilton Woolen Co., Southbridge, Mass., is a candidate for the republican renomination for the State senate at the September primaries.

George W. Norwood, treasurer of the Thayer Woolen Co., North Oxford, Mass., and family, are at Squirrel Island, Me., for the remainder of the season.

Theodore T. Ellis, treasurer of the New England Fibre Blanket Co., Worcester, Mass., and Mrs. Ellis have returned from a four months' trip to the principal countries of Europe.

Harold R. Shirley, Philadelphia, returned Aug. 2, from a short vacation which he spent with his family who are summering at Northeast Harbor, Me.

W. H. J. Tisdale, assistant manager of the Canadian Cooperative Wool Growers, who has just completed a trip as far west as Kamloops, B. C., is well pleased with the growth of the sheep industry in that Province. British Columbia he says, will ship 90% of its wool this year, or 250,000 lbs. as compared with 161,000 lbs. last year, to the Canadian Cooperative Wool Growers at Weston, Ontario.

Announcement is made of the engagement of Henry Kirk Greer, son of William Kirk Greer, agent for the Hoosac Cotton Mills, North Adams, Mass., and Miss Louise Groucett Roberts, Liverpool, England. Mr. Greer is a New York lawyer. The wedding will take place in England.

Thomas S. Stinson, office manager for the M. J. Whittall associates, Worcester, Mass., and Mrs. Stinson, will leave on Aug. 7 for a vacation at the Thousand Islands.

Isreal Dodge, for some time in charge of social relations at Sutton's mill, North Andover, Mass., has resigned to become an automobile salesman.

W. W. Weed, manager of Kenwood Mills, Ltd., Arnprior, Ont., left recently for British Columbia where he will visit a number of pulp and paper mills.

Henry K. Greer, son of William K. Greer, agent for the Hoosac Cotton Mills, North Adams, Mass., has been admitted to the New York State bar and will practice with the law firm of Kerlin, Woolsey & Co., New York.

W. W. Scott is now superintendent of the finishing department of the Gardiner & Warring Knitting Co., Amsterdam, N. Y.

A. F. Bruton has taken charge as superintendent of the Cascade Mills, Mooresville, N. C., succeeding W. H. Gibson who has gone to Troy, N. C., to accept the superintendency of the Aileen Mills.

Robert E. Cooper, of Fall River, Mass., and a graduate of the Bradford Durfee Textile school in 1925, has been made assistant superintendent of the Ponemah mills, of Taftville, Conn.

James A. Burke, Jr., superintendent of the Sagamore Mfg. Co., Fall River, Mass., and Mrs. Burke are making a brief tour of England and the Continent.

Howard A. Emsley, superintendent of the Wuskanut Mills, Inc., Farnumsville, Mass., and Mrs. Emsley are passing their vacation at Ogunquit, Me.

William B. Grundy, for the last four and one-half years assistant superintendent of the Uxbridge (Mass.) Worsted Co., Inc., has resigned, effective on July 30.

John F. Oates, for a number of years boss dyer for the Fort Mill (S. C.) Mfg. Co., has resigned to accept a similar position with the Roanoke Mills Co., Roanoke Rapids, N. C.

W. T. Barron, for several years cashier of the First National Bank of Fort Mill, S C., has resigned to accept a position in the office of the Fort Mill (S. C.) Mfg. Co.

Robert Moss has accepted a position as second hand in the weave room of the Palmer mill of the Otis Co., Three Rivers, Mass.

James Baron has taken the position as overseer of weaving for the Stafford Mills, Fall River, Mass.

George J. Burke, overseer of finishing for the American Mills of the Hockanum Co., Rockville, Conn., has resigned his position with that company to accept a similar position with the Glenside Woolen Mills, Skaneateles Falls, N. Y.

Charles N. Taft, overseer of finishing for the Glenside Woolen Mills, Skaneateles Falls, N. Y., has resigned his position with that company.

F. L. Bastow has taken the position as overseer of dyeing for the Fairmount Dye Works, Woonsocket, R. I. Mr. Bastow was formerly employed at Stottville, N. Y.

L. J. Webb, who has been in charge of the employment bureau of the Pepperell Mills, Biddeford, Me., since the termination of the strike early in the year, has resigned from the position and will engage in another occupation. Mr. Webb will be succeeded by J. W. Sweetsir, Sr., of Saco. Mr. Sweetsir has been employed in the new display rooms of the Pepperell recently, and formerly was employed in an important capacity in the erecting room of the Saco-Lowell Shops.

George Lepine has been promoted as overseer of the weaving department of the Stone Mill Co., West Medway, Mass.

Lewis Reitzel, Lancaster, Pa., has taken a supervisory position in the plant of the Stylo Silk Co., Lebanon, Pa.

J. D. Heath has been made second hand in carding No. 1, day run, at the Winnsboro (S. C.) Mills.

George B. McGracken, master mechanic of the Quidnick-Windham Mfg. Co.'s mills at Willimantic, Conn., has resigned and will retire from active work. Mr. McGracken is 79 years old and has been employed by the Quidnick-Windham Company for 48 years. Previously he had seen service with the Fulton Bag & Spinning Co., Atlanta, Ga., the Atwood-Morrison Machine Co. and the Smithville Co., of Easthampton. Mr. McGracken is the inventor of a steam trap, spindle, shuttle guard and valve, all now in use.

W. T. Cresswell has been made overseer of the carding and spinning department of the Cascade Mills, Mooresville, N. C. He formerly lived in Charlotte, N. C.

Sam Lawrence is now overseer of weaving at the Fort Mill (S. C.) Mfg. Co.

Charles Hammar is now overseer of weaving at the Arista Mills, Winston-Salem, N. C.

T. B. Moore has been made general overseer of weaving at the High Shoals (N. C.) plant, of the Manville-Jenckes Co.

E. L. Thomas, has resigned as second hand in Mill No. 1, in he day spinning department of the Baldwin plant, of the Aragon-Baldwin Cotton Mills, Inc., Chester, S. C.

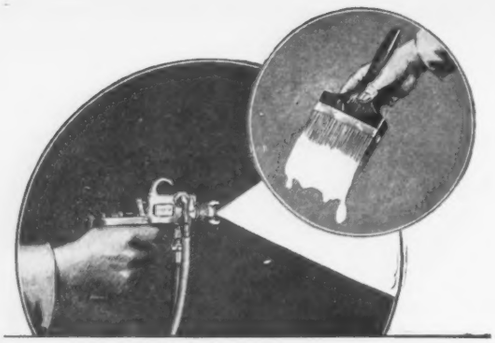
L. H. Hambright, who has been overseer of spinning at the Payne Mill Macon, Ga., has tendered his resignation.

T. S. Ghent, formerly of Rock Hill, S. C., has accepted the position of overseer of spinning at the Cannon Mfg. Co., York, S. C.

G. L. Moore, who has been overseer of the cloth room and of the weaving department of the Kenneth Cotton Mills, Walhalla, S. C., has resigned.

L. R. Painter has tendered his resignation as night overseer of spinning at the Osage Mills, Bessemer City, N. C.

R. B. Scott has accepted the position of night overseer of weaving at the Inverness Mills, Winston-Salem, N. C. He was formerly of Jefferson, Ga., and Siluria, Ala.



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Write for Catalog T-1

Fig. 613

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QUESTIONS AND ANSWERS

CORRESPONDENCE WITH READERS

Under this head, we undertake to answer, free of charge, to the best of our ability questions pertaining to textile matters received from any regular subscriber to TEXTILE WORLD. Inquiries should give the fullest information and data possible. In the case of damage to material, a sample should be sent. In this way answers can be given which will be of immediate technical value to the correspondent and to others in the same line. Inquiries pertaining to textile processes, machinery improvements, methods of management, the markets, etc., are especially invited as well as any legitimate discussion on the views expressed. All inquiries must be accompanied by the name of the person inquiring, not for publication, but as an evidence of good faith. The identity of those seeking information on technical subjects will not be disclosed.

If the question is not of general interest to textile readers and involves expensive investigation, a charge covering the cost may be made, of which the inquirer will be advised before any expense is incurred.

Letters expressing opinions or voicing criticism will be signed by the correspondent's name unless the letter itself contains a request that the name be withheld—EDITOR.

Permanent Stains in Mineral Dyeings

Technical Editor:

We are enclosing herewith samples of mineral-dyed holland cloth (iron buff) showing cloudiness and dark stains, and would appreciate any information you can give us as to what has caused this condition. No evidence of any such stain can be detected before the goods are dyed and it is only visible after treatment with soda ash.

Upon redyeing after stripping the color with oxalic acid, the same stain reappears. In all cases the strength of the cloth is impaired where these stains occur, and Fehling's solution gives an indication of the presence of oxycellulose at these places. We have attempted to duplicate this condition by dyeing a swatch known to contain oxycellulose and have been unable to produce the same result.

Our method of processing is as follows: The unsinged goods are wet out through a rope washer and left over night in a bin, then washed into a high pressure kier and boiled 15 hrs. using 4% caustic, 2% soda ash, soap, and oil. The fabric is washed, soured using sulphuric and muriatic acid, washed, and laid in chemic over night. It is then anti-chlored with bisulphite, mangled, and dried before dyeing. The dyeing is done on jigs using nitrate of iron and soda ash in the usual manner.

(5832)

An examination of the samples of mineral-dyed holland cloth shows the prescence of oxycellulose at those places where stains occur. By stripping the color with muriatic acid and subsequently redyeing with a direct color, a white resist is obtained where the dark stains were previously found. This result corroborates the Fehling's solution and methylene blue tests for oxycellulose. In spite of the fact that the inquirer has not been able to duplicate the results on a swatch known to contain oxycellulose, it is our opinion, nevertheless, that on the samples submitted the stains are due to oxycellulose.

Although the general method of processing the goods as outlined in the inquiry should give satisfactory results, it is probable that in some manner the fabric was subjected to overbleaching. This overbleaching may possibly have been caused by the use of too strong a solution of either acid or chemic, or by insufficient washing of the cloth before drying.

It is doubtful whether the cloudiness and stains can be eliminated from the goods which now contain oxycellulose. In some cases, however, a treatment with titanous chloride is beneficial. It is suggested, therefore, that a swatch of the cloth be stripped of color with either muriatic or oxalic acid, washed, immersed for one-half hour in a 2 to 3% solution of titanous chloride containing a small amount of muriatic acid, washed, and then redyed with nitrate of iron and soda ash in the usual way. If this treatment eliminates the stains on the swatch, a roll of cloth may be processed in the same manner on a jig, giving the goods from six to eight runs through the titanous chloride solution which is maintained at a temperature of about 160 deg. F.

* * *

Light Cotton Fabric Pasted on Duck

Technical Editor:

I am enclosing herewith a small sample of cotton duck that has had a lighter material pasted on the back. I would appreciate your supplying any information you may have as to what would be the best methods to adopt in handling this material before pasting the two fabrics together, and also during the operation of joining the two together. What is the sizing formula or is there any special product on the market for gluing fabrics together? Would also appreciate a rough idea as to what machinery one would have to have to produce 15,000 yds. per day, as per sample.

(5839)

The olive drab or khaki shade is probably a sulphur-dyed cotton duck and the lighter-weight goods have evidently been napped in the gray condition. In order to produce the dyed khaki duck it is, of course, necessary to install an elaborate outfit of machinery. The main features to bear in mind are that the goods should be brought to the combining machine, finished exactly to even width; that is, both fabrics should be 39 or 40 in. or any other exact width predetermined. They should be then passed over the combining machine and dried on the cylinders of this machine at the required speed.

As regards the formula, the usual ingredients for sizing material of this kind are a mixture of white corn dextrin and tapioca dextrin, with the possibility of the addition of a certain amount of glue. We would recommend that the inquirer take this up with some manufacturer of dextrins.

For a production of 15,000 yds. per day, the inquirer would have to have at least two combining machines, and my recommendation for additional equipment would depend upon exactly how the inquirer intends to treat the goods before combining; that is, upon whether the cotton duck will all be dyed in one shade and whether the requirements will be for fast colors.

Upon receipt of advice along these lines, we can very readily lay out a plant for the inquirer in a rough way. It might be well also to remind him that the gray width of fabric and the finished width required have a great influence on the type of machinery which we would specify.

* * *

Qualitative Tests for Rayons

Technical Editor:

Will you please inform me of some simple means whereby the various types of rayons may be distinguished from one another and from silk. By this I mean how can I, in a small experimental laboratory, perform tests on various fabrics or yarns and tell which is viscose, nitrocellulose, lustron, celanese, etc. I shall appreciate any methods which you can give me.

(5833)

The differentiation between real and artificial silk is easily accomplished by covering a small, light-colored or white sample (¼-½ gm.) of the mixed or separate fibers with a few drops of Millon's reagent. This test solution is made by dissolving metallic mercury in its own weight of concentrated c. p. nitric acid and diluting the solution with an equal volume of water. A brick red color develops in a few seconds in the presence of real silk. Rayon shows no color.

Only acetate silks (celanese and lustron) are appreciably or readily soluble in glacial acetic acid or hot acetic acid of greater strength than 65%. Acetate silk is also soluble in a mixture of 5 parts chloroform and 2 parts denatured alcohol.

Lustron gives a deep and permanent blue when brought to the boil with 10 to 15 cc. of a .1% solution of Methylene Blue and a small amount of acetic acid. If samples of lustron and celanese are treated together in this manner, the color will wash out to a very faint blue in the case of celanese, while the lustron will remain deeply colored. Acetate silks do not burn as do the regenerated cellulose silks (nitrocellulose, cuprammonium, and viscose) with a quiet, ready flame like the flame of burning bleached cotton. They fuse under the influence of the heat from a small flame, and a black knob or bead is formed which runs down the thread just ahead of the small sputtering flame which burns slowly. Burning regenerated cellulose emits an odor similar to that of burning bleached cotton cloth.

Wet nitrocellulose silk assumes a deep blue color when treated with a drop or two of a solution of 1 gm. diphenylamine in 100 gms. of concentrated sulphuric acid, while the other regenerated cellulose silks are uncolored. The blue nitrocellulose silk fiber dissolves in the test solution in a few seconds, imparting its color to the solution.

If both acetate silk and nitrocellulose silk prove absent, a staining test may be employed to distinguish between cuprammonium and viscose silks. Certain dyestuffs have a marked difference in affinity for these two types of rayon. Two such dyes are Erie Scarlet B and Sulphur Khaki Y, both of which dye cuprammonium silk much heavier than viscose. In this differential staining test it is well to use a small amount of color, 1% based on the weight of sample; equal weights of samples and equal volumes of dye-bath ;and to immerse samples in bath at the same time, keeping them under the dye liquor for the same length of time.

* * *

Relative Speeds on Woolen Cards

Technical Editor:

Will you please answer the three following questions, if possible:

1. What is the least surface speed gain in inches that a tumbler roll on a woolen card must gain over a licker-in or leader roll in order to clear the leader on the general run of stock? We know that the greater the gain the better it will clear; but the question is, what is the least surface gain that will do the work?

2. What is the least gain of cylinder surface speed in inches over the tumbler necessary to clear the tumbler roll? We know the greater the surface gain of the cylinder over the tumbler roll the better it will clear the tumbler. But what we want to know is, what is the least surface gain that will do it on the average stock used in mills?

3. What surface speed gain of the fancy over the surface speed of the cylinder is generally necessary on the average stock used in a woolen mill in order to raise it for the doffers and clear the cylinder? We know there are many other things than the surface speed that affect the working of a fancy, but we simply want to know what is generally considered about the right surface gain over the cylinder? (5828)

We are not aware of any experi-

Correspondence with Readers—Continued

ments having been made to settle the points raised in questions 1 and 2. One authority states that a roll to strip should have a gain or lead of 50%. Below this speed there is a tendency for stock to be retained. It is interesting to note that practically all fancy speeds are below this figure.

Regarding the third question, from 10 to 25% lead is considered enough for the fancy, the slower speeds being used on the fine, lofty, neppy wools. A large fancy cannot be run at as high a speed as a small fancy. To prove this a fancy of 5½ in. diameter was used. This was really a stripper roll covered with fancy fillet clothing. This fancy ran well with a lead of 48% over the cylinder speed and gave very good results.

* * *

More About Chinese Working Conditions

Editor, TEXTILE WORLD:

In the TEXTILE WORLD of March 20 last there was printed on page 79 a letter from a Mr. W. R. Dyson, claiming long experience in the cotton manufacturing industry of Shanghai, and describing labor conditions in the Japanese mills.

We sent that article to one of our friends in Shanghai who writes as follows:

"We have made exhaustive attempts to check the correctness of the report made by W. R. Dyson, but we are sorry to say that we cannot now give you any definite information beyond saying that the scale of wages which you mentioned is certainly very much below what is being paid today. Regarding the working hours, it is impossible for us to find out anything definite, but it has to be admitted that working hours in China, in industries of all descriptions and controlled by all nationalities, including Chinese, are very much longer than those prevailing in western countries, and we do not think there is any difference whatsoever in this respect between works controlled by Japanese compared with works controlled by other nationals.

"The Chinese themselves willingly accept long working hours as a matter of convenience to themselves and to their families, by which we mean that they feel much more comfortable in well ventilated mills which are warm in winter and cool in summer than they would be in their own miserable hovels, and while it may offend the humanitarian principles of certain people in the West to say so, there is no doubt that restriction of working hours and compulsory ejection of the laborers into the streets at premature hours would be a hardship to them rather than otherwise.

"We think it entirely wrong to discriminate against the Japanese in this matter, as whatever their practices are they comply entirely with the practices of this industrial center generally, and in many respects it is an indisputable fact that the Japanese have done very much more to improve the position, well-being, and education of their employes in China than any other nationality."

INVESTIGATOR.

* * *

Praises Mr. Lewin's Analysis of Thrown Silk Sizes

New York, July 26, 1926.

Editor, TEXTILE WORLD:

As one of your old subscribers, I would deem it a special favor if, in one of your early issues of the TEXTILE WORLD, you would be kind enough and express in the column "Correspondence with Readers," my profound admiration to Mr. Irving Lewin (treasurer Lang & Lewin) for his most able treatise in your issue of July 3, on "Calculating Sizes of Thrown Silk."

Any one who read this article, and, while doing so turned his thoughts to the pages of the recently released report of the Arbitration Board of the Silk Association of America, cannot fail to recognize in Mr. Lewin's treatise a most constructive contribution to silk manufacturers at large.

This article, because of its importance, should be reprinted and distributed to every silk manufacturer who purchases thrown silk.

As my experience covers a direct relationship with over 15% of the entire silk loomage in the United States, perhaps Mr. Lewin may accept my public tribute as being worthy of his attention.

Congratulations also to the TEXTILE WORLD for the progressive and truly useful service it renders with every single issue to its subscribers and advertisers.

Respectfully yours,
(Signed) W. M. KUHN.

* * *

Seaweed as a Textile Fiber

Technical Editor:

We wonder if you can supply us with information concerning the manufacture of seagrass or seaweed fabric. We wish particularly a list of concerns known to be experimenting or manufacturing either a yarn or a fabric from this fiber. (5841)

We have no knowledge of anyone in this country making use of such raw material, and it is also our belief that all foreign manufacture of seagrass yarns and fabrics have been of an experimental character. A seagrass of some kind, the exact nature of which we do not recall, was exploited years ago in England and other European countries as a substitute for wool—yarns and fabrics being actually produced—but we know of no one who is now engaged in such manufacture and no one who experimented with the grass in this country.

Of course Spanish moss (tillandsia usetoides) and another seagrass (zostera marina) are extensively used for the stuffing of mattresses and also for packing. Spanish moss is sometimes known as vegetable horsehair, but we know of no instances where it is being used as a textile fiber.

* * *

More About Need of Technical Background

NORFOLK DOWNS, MASS.

Editor, TEXTILE WORLD:

Regarding the discussion as to whether a man who is not technically trained can make a good advertising or sales promotion executive in the textile industry, the writer would venture to say "yes." Of course, exact technical information must be readily available to such a man, and he must know just how valuable that fact is, from the *buyer's* point of view.

Moreover, a trained advertising man who has worked in various industries, is often able to see new uses for a textile product from his experience in other industries.

Speaking, therefore, from the point of view of an advertising man, the writer would say that while exact technical knowledge would be an asset in such a field as the textile industry, yet, above all, and first of all, the advertising man must be able to raise his mind above chemical and technical facts, important and necessary as they are in their place, to the "big idea" of the sales story of the particular textile product.

In a word, he must be first of all a salesman, and, secondly, a production man.

W. E. KERRISH,
Advertising Department, Boston Gear Works Sales Co.

PROVIDENCE, R. I.

Editor, TEXTILE WORLD:

I am interested in the question of the possibilities of an executive making good if he does not have textile technical knowledge.

Take a production manager: Outside of his work of seeing that production is kept up to a high point and that goods are properly routed and material supplied the machines, he could prove very valuable in bringing about a better understanding among the workers. Now and then small groups should be taken through each department so that they might see just how their particular work fits in, to make a perfect product. Certain standards should be set for each worker to attain, and a check on each person's work should be made even if they are on piece work, so that they can be complimented when they do good work.

These are only a few of the ways by which a production manager might save money for a mill, yet not have technical knowledge. I agree with you just the same, that a man should learn as much as possible after he got the position; in fact if a man does not care enough to learn, he should not enter the business in the first place.

A sales promotional management department is most often lacking in a textile mill. Many have a sales manager but no promotional department. A man skilled in writing letters to jobbers or dealers, and from time to time obtaining names of the dealer's customers and prospects and sending a well written letter to these consumers on the mill brand, would do much toward creating a consumer demand. Likewise a sales promotional manager can do much in creating dealer helps in the form of attractive window and counter displays, in preparing demonstrations and newspaper cuts. All this work does not require skill in technical work; in fact I doubt if a skilled technical worker could handle such a department properly.

I also believe that the trouble with many a mill is that its head is too smart in textiles and too dumb in professional management. To be a skilled technical textile man is a profession in itself and there are few men who can master both this and managership.

ROBERT P. MCCULLOUGH.

* * *

U. S. Production and Consumption of Mohair

Technical Editor:

We should like to have you furnish us with statistics as to the quantities of goat hair produced in the United States, and the quantities of this fiber consumed in manufacture. Any information of this nature you may be able to furnish us will be very greatly appreciated. (5840)

The Department of Agriculture gives the following figures for production of mohair or goat's hair in this country: 1924, 10,043,000 lbs.; 1925, 10,661,000 lbs. In imports figures, "hair of the angora goat, alpaca, etc.," are not given separately, but probably 75% of these imports for the last two fiscal years, ended June 30, were of mohair. The figures are as follows: 1924, 4,924,581 lbs.; 1925, 3,808,642 lbs. No official figures are available for consumption of mohair, but it is safe to assume that the amount consumed annually is approximately the annual production plus imports.

HOOVER HOSIERY COMPANY
Concord, N. C.

April 12, 1926.

Mr. C. Hutton, Technical Editor,
TEXTILE WORLD,
65 Franklin St.,
Boston, Mass.

Dear Sir:—We acknowledge receipt of yours of the 9th.

We assure you that we appreciate the great help you have given us and trust that we may have the opportunity to reciprocate.

Thanking you again and with our best wishes.

Very truly yours,
HOOVER HOSIERY CO.
(Signed) W. J. Barbee, Supt.

Air Movement in Weave Rooms

Effects of High Temperatures and Humidities Lessened by Use of Individual Fans*

By J. A. Hunter

ARTIFICIAL humidification, as practiced in Lancashire, England, weave rooms, has drawbacks which are largely independent of the precise methods adopted in heating and humidifying the atmosphere. The method of humidifying is sometimes crude, and ranges from the simple emission of low-pressure steam up to the use of scientific air-conditioning apparatus. Regardless of the method of attaining it, a high temperature combined with high humidity tends, after a certain point, to become detrimental to human energy, however much it may facilitate the working of heavily sized or fragile yarns. This is attributable to two causes: primarily, the escape of air heated by the human body is retarded; and secondly, the cooling effects of the evaporation of surface moisture are reduced. Due to these conditions, the operative suffers from lassitude, and output is lowered by an abnormal slowness of human motion.

The apparent remedies are to maintain the temperature and humidity at an economic level—perhaps below that which would be most advantageous to the material; or, to promote a flow of air around the person of the weaver, offsetting the effects of atmospheric stagnancy.

Electric Fans Suspended

An experiment along the lines last named has been made in a small Lancashire weaving shed of 98 looms in which 26 operatives produce twills, satins, and dobby-figured goods on up to 14 harnesses. This shed is equipped with vortex and steam-jet humidifiers and plenum ventilating fans. The experiment consisted of suspending electric fans in such manner as to sweep air currents toward the central position occupied by four-loom weavers. Readings were taken systematically, recording the temperature, humidity, cooling power of the air, and the rate of air movement, as well as the number of picks and of yarn breakages.

Air Velocity Average

The air velocity average during the intervals when the fans were not working was 46 ft. per minute, while the average was 147 ft. with the fans in motion. This increase of 220% in air movement was accompanied by an increase of 33% in average cooling power (determined by the dry kata thermometer), and of 28% in evaporative power at body temperature.

The records are not highly conclusive in regard to the effect (if any) of the fan action upon warp breakages. The action at least did not increase the number of loom stoppages. Observations taken on 16 looms for periods ranging from 30 to 109 hrs. showed the following:

	Fans Stopped	Fans Running
Loom stoppages..	1.71 per hr.	1.57 per hr.
Warp breakages..	2.45 per hr.	2.24 per hr.

Thus it is at least clear that the air movement under the conditions prevailing where this test was made did not extract moisture from the materials to any appreciable extent.

Number of Picks Increased

The crucial test is of course that of output as determined by the automatic pick counters. If output increases when the fans are working it is permissible to attribute the net result to the quickened actions of the weaver. For the purposes of comparison, the investigators have arranged tables to facilitate comparison in detail between corresponding intervals of work. The broad effect is shown below.

AVERAGE PICKS PER HOUR

	Fans Stopped	Fans Running
Before noon.....	7165	7279
After noon.....	6998	7198

The weavers liked the fans, found the air currents refreshing, and asked on hot days that the fans might be turned on. The fans used for the purpose of experiment were of the gyrating type, moving in two planes, with 12-in. blades running 1500 to 1850 r.p.m., and were mounted in pairs upon pendants 10 ft. from the floor. The fans presented a choice of three speeds corresponding to air velocities of 146, 108, and 87 ft. per minute. Since the rate of revolution could be proportioned to the cooling effect desired, the highest rate, of course, went with the highest temperature. At 146 ft. per minute the investigators found that with the type of fan in use the cooling effect at 77.5 to 80 deg. F. was greater than at 70 to 72.5 deg. F. without fans. The top speed is suggested for use after 75 deg. has been reached. To attain equivalent cooling effects above 80 deg., higher-powered fans would be needed, and the ultimate possibilities of the beneficial use of fans in weave rooms remains to be investigated.

Observations made in regard to a fan 24 in. in diameter and revolving at 550 r.p.m., which was fixed horizontally and fitted with an intermitting device to give periodic variations of speed at the rate of about five per minute, showed that an appreciable effect was brought about upon the area covered by the four looms immediately beneath the fan, but that there was little distant result.

Fans Operated by Loom

The best arrangement of fans and best type of fan to employ is not necessarily determined by an experiment which aims simply to discover a general method for the relief of industrial fatigue. Mr. S. Wyatt and his colleagues mention the possibility that a number of small fans, mechanically operated by the loom may prove the best solution. Their running cost would be low, their effect local, and they would be under individual control by the weaver—a point of some importance in arrangements intended to promote individual comfort.

In presenting the conclusions, the Industrial Fatigue Board claims no more than to have adduced evidence enough to cause ventilating engineers and others concerned to bring their technical knowledge to bear upon some means of regulating air movement in weaving sheds at a price which should not be prohibitive, and in a manner thoroughly suitable for use under practical conditions. Since there is evidence that engineers are already stirring in England, more is certain to be heard of the matter.

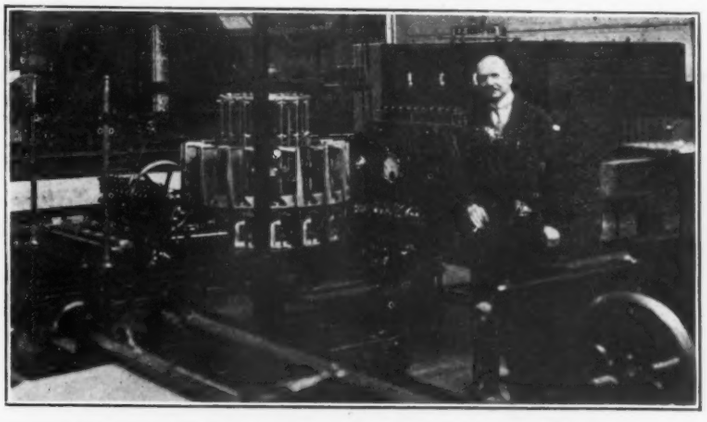
* Experiments conducted by The Industrial Fatigue Research Board of England.

Replaces Jacquard Cards

Simple Wax Cylinder Affords Variety of Designs

We are informed that one of the features at the Leipzig Trade Fair, which opens Aug. 29 and continues until Sept. 4, 1926, will be a jacquard machine operating without cards and having instead a wax cylinder similar to that used in the early form of Edison phonograph. The design to be woven is first projected on a pane of glass and, by a simple photoelectric process, is reproduced on the wax cylinders. This apparatus is illustrated in the accompanying photograph. The records which are reproduced continuously in the minute grooves of the cylinder resemble those of the phonograph, but are coarser.

The cylinders replace the familiar perforated cards and serve the same purpose. It is claimed that the new device makes it possible to reproduce intricate designs with the utmost fidelity and at a lower cost than formerly. The inventor states that a pattern which cost $25 to reproduce in perforated cards can be transferred to one of the wax cylinders for 50c. The new method is said to be more flexible than the old.



Apparatus for Preparing Wax Cylinders for Jacquard Weaving

Business News

Ballinger Engineering Appraisal Co.

The Ballinger Co., architects and engineers, Philadelphia, and New York has formed a subsidiary company to be known as the Ballinger Engineering Appraisal Co., which has taken over the work of the appraisal department of the Ballinger Co. Because of the rapidly increasing demand for appraisals made by the Ballinger organization, and in order to enable them to continue the personal attention of responsible executives this change was necessary. Offices have been opened at 100 East 42d St., Pershing Square Bldg., New York, and S. E. Corner 12d and Chestnut Sts., Philadelphia. The officers of the new company are identical with those of The Ballinger Co. F. L. Corte, of wide experience and a successful engineer and appraiser is in charge of the New York office of this company, while the personnel in the Philadelphia office continues as in the past.

General Electric Co. Earnings

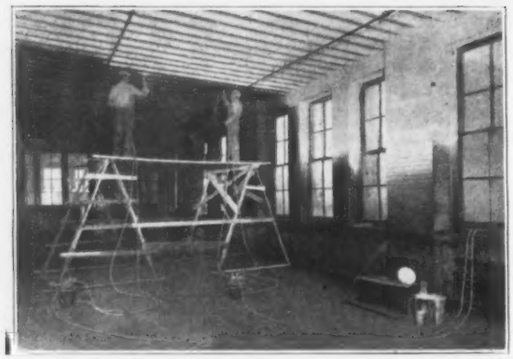
The General Electric Co.'s net sales billed for the first six months of the current year, ending June 30, 1926, totalled $147,450,867.96, and the profit available for dividends on the common stock and surplus is $19,000,392.63.

This announcement, which indicates net earnings equivalent to about $2.63 per share on the 7,211,481 shares of new no par value stock, was made by President Gerard Swope in accordance with a new plan of the company for reporting earnings quarterly to the stockholders, in addition to the statement of orders received which has heretofore been sent stockholders every three months.

Made Manager of Montreal Office

MONTREAL, QUE.—R. E. Dingman has been appointed district manager of the Montreal office of the Diamond State Fibre Co., of Canada. Mr. Dingman, who was born in Canada, succeeds J. A. Regan, who has been appointed manager of the Pittsburg, Pa., office of the company.

MIDDLETOWN, N. Y. The Middletown Dye Works, Inc. have been organized with a capital of $10,000, to operate a local plant. The company is represented by E. C. Faulkner, Middletown. The incorporators are H. and E. Gilman, both of Middletown.



Save 40% to 70% In Painting Costs

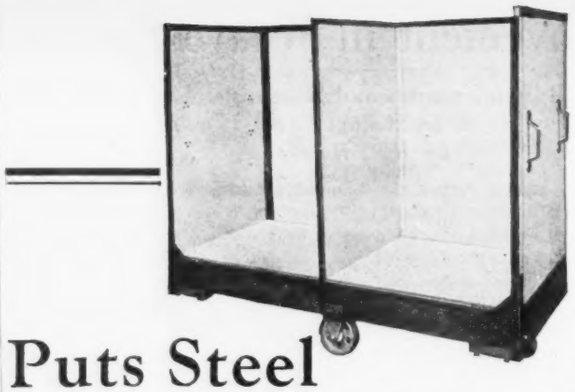
Learn how textile mills are saving thousands of dollars annually on their cost of painting mill interiors, exteriors, mill villages and other buildings and equipment. Matthews Mechanical Painting Equipment now enables one man to do the work of four to eight hand painters. Where textile mills have been spending 65% of their maintenance painting money for labor and 35% for material, they tell us that now, using Matthews Mechanical Painting Equipment, the proportion is but 25% for labor and 75% for material. Hence with a given appropriation Matthews Mechanical Painting Equipment will enable you to paint from 2 to 3 times more surface. The exclusive features of the Matthews Paint Gun eliminate waste and remove the objectionable features of ordinary spray painting methods. See just why maintenance men, after critical tests, discard other methods and equipment and choose

MATTHEWS
MECHANICAL PAINTING
EQUIPMENT

W. N. MATTHEWS CORPORATION
3752 Forest Park Blvd., St. Louis, Mo.

Send For This

Write for Bulletin "Mechanical Painting for Industrial Maintenance"



Puts Steel between Fabric and Blow!

Knocks and blows are part of every mill's "equipment." When one comes along and rams a Met-L-Wood — this truck defies the impact — stands puncture-proof! The materials encased remain safe, unharmed — *there's steel between fabric and blow!*

Two tough sheets of galvanized steel enclose a central heart of wood (for lightness) — that's the Met-L-Wood "Armord" construction. There's stubborn resistance bonded to ease in handling.

The model picture above facilitates stacking and unloading — means more work per operative.

Our catalog shows the entire line of Met-L-Wood Trucks. There's bound to be one to suit your needs. *Write.*

See page 346 Consolidated Textile Catalogs

Met-L-Wood Corp., 2419 W. 14th St., Chicago, Ill.

Trucks that are "slam-bang" proof

MET-L-WOOD "ARMORD" TRUCKS

The Best Portable Watchclock

DETEX PATROL

Watchclock System

This is the latest and finest of all portable watchclock systems. Just a few reasons why:

1. So absolutely interchangeable and unlimited that one watchman could register at 100 or more different stations — or 100 or more watchmen could register at one station, in a night. (This is not possible with any other portable watchclock system.)
2. Registers numerals, letters, or any combination desired.
3. No wear on clock—practically none on recording keys.
4. Adaptable to smallest and largest plants. Grows with plant, without change.

Let us send you literature more fully describing this wonderful system

DETEX WATCHCLOCK SYSTEM

72 Varick Street NEW YORK — 4143 Ravenswood Ave. CHICAGO — 27 Beach Street BOSTON

One night of faithful watching may prevent months of non-production. DETEX Watchclocks insure faithful watching every night

Other DETEX Watchclock Systems

NEWMAN Portable— The best known and most extensively used watchclock system in the world. 1 to 30 stations.

ALERT Portable— Ideal for plants requiring up to 30 stations. Initial cost moderate — maintenance extremely low.

ECO Portable— Most accurate watchclock. Records practically to minute. Important in some cases. 1 to 20 stations.

BOSTON [*Magneto Type*]— For large plants desiring records of a number of watchmen on one dial. Any number can register simultaneously and each record will show separately

"BIGELOW" MAPLE FLOORING

The Product of

Michigan Hard Rock Maple

The Hard Maple from this section excels the product from any other locality in the hard, even texture that insures the greatest durability and finest appearance. The well known wearing qualities of Hard Maple have made this wood ideal for FACTORY FLOORS.

Our facilities enable us to give prompt service on large quantities

KNEELAND-BIGELOW CO.

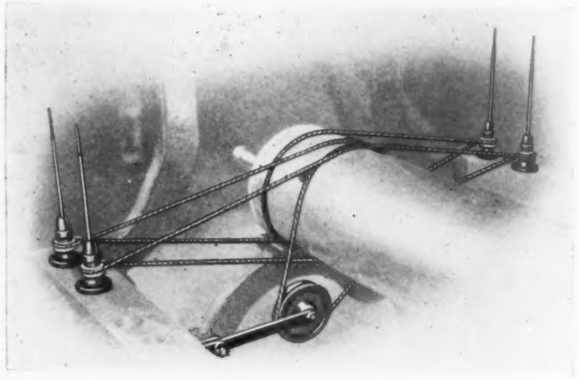
BAY CITY MICHIGAN

NEW MACHINERY AND PROCESSES

Patent Tension Device

For Band Driven Spinning Frames and Twisters

A patent tension device for band driven spinning frames and twisters has been placed on the market by H. & B. American Machine Co., Pawtucket, R. I. It has been developed, thoroughly tested, and is now in use in a number of mills. It is claimed to have all the advantages of the tape drive, and also additional points of merit. The band working in a V-groove in the spindle practically prevents slippage. The whirl on the spindle being of the V-groove shape, the band has a tendency to work to the smallest diameter of the whirl.



Tension Device for Band Driven Spinning Frames and Twisters

A uniform tension is maintained by a swinging carrier pulley running on an oilless wood bearing and supported by a lever which is hung from the spindle rail. One band drives four spindles. A loop or endless band is recommended. There is no slip of the band on the cylinder, as this band for a four-spindle drive passes around the circumference of the cylinder three times. More uniform speeds are obtained and consequently a more even twist. The life of the band is practically the same as that of a tape, and being a loop band it is easily and quickly put on without sewing or the use of buckles, thus saving labor and inconvenience.

Hosiery Dyeing Machine

Improved Design Insures Drum Free From Roughness

The Klauder-Weldon Dyeing Machine Division of the H. W. Butterworth & Sons Co., Philadelphia, Pa., are announcing the development of a dyeing machine which has been completed after several years' work. This is a radical departure from their older type—the original hosiery dyeing machine. Test machines have been operating in various mills for more than a year. Reports on the operation of the machine by mill owners fail to show any defect, it is said. Instead, the men in the shops where the new dyeing machines have been installed are high in their praise of its efficiency, economy, and speed.

Present day methods of dyeing, particularly of the lighter, sheerer kinds of hosiery now so much in vogue, require a smooth cylinder. Especially is this required by those manufacturers who do their dyeing without nets. Heretofore, difficulties were invariably attributable to one or the other of two conditions: First, the use of improper material; and second—undoubtedly the most usual cause—faulty design, wherein cast metal surfaces, raw sheet edges, exposed bolt and rivet heads, or other rough projections and crevices were present inside the cylinder where the goods might catch and the hose be torn or threads pulled.

According to Wm. E. H. Bell, general manager of Klauder-Weldon, these conditions have been entirely displaced in the construction of these machines, by elimination of the undesirable features of design rather than by the expensive method of trying to correct the faults by filing, soldering, and smoothing. Thus, a machine as nearly perfect as possible was produced by the most economical means.

The construction of the new machine is simple, and is carried out by flanging the various adjoining members outwardly for the double purpose of strengthening and stiffening the construction, and at the same time allowing them to be riveted on the outer side of the cylinder. In this way, any exposure of rough edges of sheets or cast metal surfaces, or bolt or rivet heads inside the cylinder is avoided. The perforating is so planned that the goods will not be in contact with the perforated section at any time in the revolution of the cylinder when they may be damaged by reason of such contact.

This design, it is claimed, will eliminate hours of labor that would otherwise necessarily be devoted to smoothing raw edges of sheet or cast surfaces, or soldering or smoothing up the inner surfaces. It insures the user against damage that may result from solder or rivets loosening or cast surfaces again becoming rough.

In addition to the usual baffles on the inner wall, the cylinder is fitted with baffles located in the middle of the floor or flat section of the semi-cylindrical pockets or compartments into which the cylinder is divided. This prevents movement of the goods *en masse* and provides for a gentle opening up of the goods to secure quick and level dyeing. The mechanical action of these center baffles varies from practically none to the most drastic requirements and depends upon the class of goods being dyed. It is determined by the height of the liquor level in the machine. Thus the dyer has in this machine equipment for all classes of work by reason of the fact that he has exact control of the mechanical action required by each class or lot of goods to be dyed.

The tub is also of sheet metal construction, mounted in iron side frames, and is constructed with welded joints. Provision is made to run the liquor, without increasing the capacity, at the higher levels so as to aid penetration and secure the desired level dyeing by increasing the pressure of the liquor on the goods. At the same time, the goods being more inclined to flat in the higher bath, are carried up in such a way as to come in contact with the metal surfaces to a minimum extent. The drive is of a very simple individual motor type incorporating an automatic reverse.

Wooden Beam Heads

Prove Their Worth on High-Speed Warpers

The Allen Co., New Bedford, Mass., announces that its wooden beam heads have passed successfully the test of continued usage on high-speed warpers. This is evidenced by the fact that the Barber-Colman Co., among the pioneers in the development of high-speed warpers, has arranged to use these beam heads exclusively. It is said that wooden beam heads are particularly practical for running on high-speed warpers, as they withstand the knocks, eliminate breakage, and their extreme lightness makes them very easy to handle when doffing the machine.

They are applied to a specially built beam, as the users of high-speed warpers now realize that the beam plays a very important part in the success of fast winding. It has been proved through careful experiments that the high-speed warping of yarn tends to lessen the pull and subsequent stretch caused by slow-speed warping, which not only makes the yarn run evener but makes better cloth by not having thin places in the yarn to break during the weaving process.

The Allen Co. have manufactured beams and beam heads for the past decade with marked success, and not only do they at the present time offer this high grade beam head which will stand up under the severe strain of high-speed warping, but they have now developed a loom beam head of both the stationary and the adjustable type, which, no doubt, will prove just as successful in the weave room as the warper beam heads have in the warping room.

RECENT TEXTILE PATENTS

BRAIDING machines, Stop motion for. 1,593,311. G. A. Russell, Millbury, Mass.

DOFFER. 1,593,039. A. E. Smith, Laurens, and C. C. Smith and J. A. Lands, Spartenburg, S. C.

KNITTING frames, Loop wheel of circular. 1,593,463. G. Nigra, Turin, Italy. Assigner to O. M. I. M. Officina Meccanica Industrie Maglieria, Turin, Italy.

LOOM dobbies, Lifter rod for. 1,593,215. J. T. Jacobson, Worcester, Mass. Assignor to Crompton & Knowles Loom Works, Worcester, Mass.

LOOMS, Bobbin tip support for filling replenishing. 1,593,197. I. Snow, Lawrence, Mass. Assignor to Draper Corp., Hopedale, Mass.

LOOMS, Feeler mechanism for. 1,593,426. L. H. Brown and G. E. Repass, Knoxville, Tenn. Assignor to Draper Corp., Hopedale, Mass.

LOOMS, Let-off for narrow-ware. 1,593,214. E. R. Holmes, Worcester, Mass. Assignor to Crompton & Knowles Loom Works, Worcester, Mass.

LOOMS, Selvage motion for axminster. 1,593,207. E. E. Clark, Worcester, Mass. Assignor to Crompton & Knowles Loom Works, Worcester, Mass.

NAPPING Machine. 1,592,896 R. H. Monk, Brookline, Mass.

PILE fabric. 1,593,528. J. T. Garvin, Saxonville, Mass., and C. H. Collins, Colonie, N. Y.

SILK winding and spinning machine, Thread cutter for. 1,592,904. F. Robinson, Kincaid, Ill.

SPINNING and winding machines, Builder mechanism for. 1,593,182. H. A. Leonard, Hopedale, Mass. Assignor to Draper Corp., Hopedale, Mass.

TWISTING machines, Safety guard for 1,593,074. F. K. Hendrickson and S. H. Helland, Durango, Colo.

WINDING machine. 1,593,012. H. E. Bryant, Providence, R. I. Assignor to Tubular Woven Fabric Co., Pawtucket, R. I.

WINSTED, CONN. The Strand & Sweet Mfg. Co. has been granted authority to increase its capital stock from $100,000 to $250,000 of 2,000 shares of common stock and 500 shares of preferred stock.

LANE CANVAS TRUCKS

FIG.27

LANE TRUCK.

A light, easy running, smooth carrier, but built for heavy duty work. Lane casters equipped with string guards prevent clogging.

Have stood the exactions of all departments of the Textile industry. One of our latest types to become standardized is the Dye House Truck. All metal galvanized. A solution to the dye house problem.

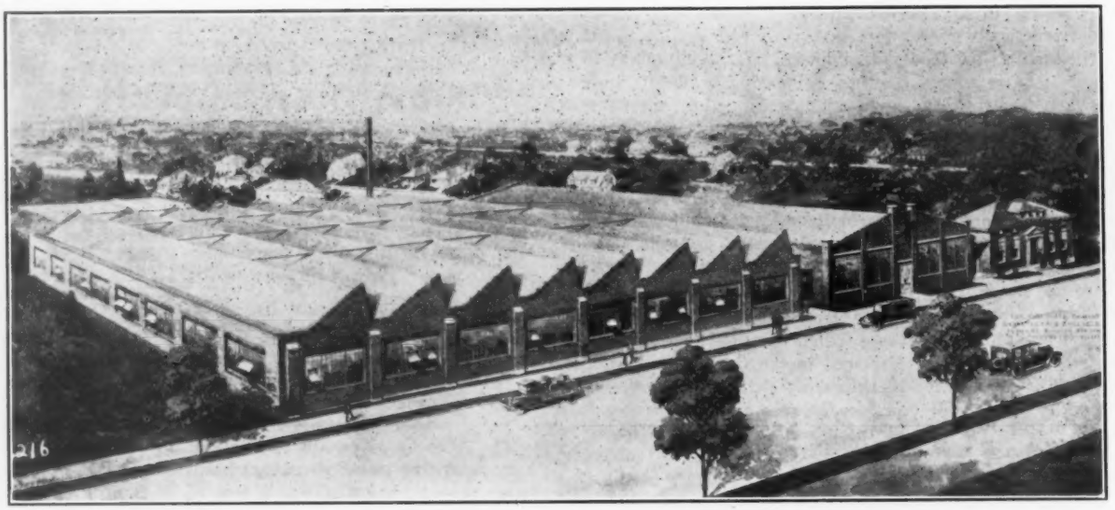
FIG 49

TRUCK & BASKET FRAME.

With slight modifications this cut illustrates the general construction of all Lane truck and basket frames. Lightness, flexibility, wonderful strength secured by this construction.

Write for Catalog No. 90

W. T. LANE & BROS.— Manufacturers —POUGHKEEPSIE, N. Y.



Manufacturing Plant
Gunning Silk Co., Easton, Pa.

48 Years of Architectural and Engineering Service

45 Repeat Orders from Clients in 1925 and with greatest total volume of work in our History

THE BALLINGER COMPANY

ARCHITECTS - APPRAISERS - ENGINEERS

PHILADELPHIA NEW YORK

Booklet Sent Upon Request

MILL NEWS

COTTON

New Construction and Additions

HUNTSVILLE, ALA. Lincoln Cotton Mills is building a large cotton warehouse at their mills here.

*PRATTVILLE, ALA. Hesslein & Co. of New York, who recently purchased the Autauga Cotton Mills of this city, will make extensive improvements on the plant, at an approximate cost of $50,000.

RIVERVIEW, ALA. It is reported that the Riverdale Mill of the West Point (Ga.) Mfg. Co., will add 5,000 spindles to its present equipment.

*CEDARTOWN, GA. Ground was broken on July 27 for the new development of the Goodyear Tire & Rubber Co. at the Paragon Mills, near here. Work was begun on two additions to the old lay-out of the Paragon Mills, one a building 500 feet long, 250 feet wide and two stories in height and the other 250 feet long, 150 feet wide and two stories high. Work was also begun on a village of 100 houses of three to five rooms each which will be used to house the additional employes required to operate the enlarged mills. According to Goodyear officials the work on the enlargements will be pushed to completion as rapidly as possible. The Hunkin-Conkey Construction Co., of Cleveland, Ohio, in charge of the work, is now employing 120 men, but within the next ten days 400 workmen will be employed. The Goodyear plant, when completed on Dec. 1, will operate 35,000 spindles, running 24 hours a day. In addition to the 200 men already employed, 900 operatives will be added to the working force. And the mills, when completed, will have a capacity of 1,000,000 lbs. of tire fabric a day. More than $2,000,000 are being spent on new buildings and machinery for the plant.

*LAGRANGE, GA. Construction of an addition to the administration building of the Callaway Mills has begun. The new offices will accommodate the accounting department of the Valley Mills, will contain 14 rooms and cost $25,000.

FALL RIVER, MASS. The Firestone Tire & Rubber Co., Akron, Ohio, is planning the construction of a large warehouse on local site, to be operated in conjunction with its Firestone Cotton Mills.

GASTONIA, N. C. Ranlo Mfg. Co. has purchased four 40 h.p. Fairbanks-Morse ball bearing motors to drive its heavy twisting frames.

ASHEBORO, N. C. W. S. Trickett, general manager of the Pennsylvania Textile Mills, Inc., located at Central Falls on Deep River, states that his plant, which has been running on short time due to repairs and alterations being made, has started operations at full capacity. Beside alterations to the plant, additions have been made to the mill building and new machinery installed.

*Indicates previous mention of project.

GREENSBORO, N. C. Permit was issued Saturday, July 31, to the Proximity Mfg. Co. for general repair work on the mill buildings at a cost of $25,000; for the erection of a one-story brick cloth matching room to cost $8,000; three tenements to cost $1,500 each and five tenements to cost $1,200 each.

*GAFFNEY, S. C. Vogue Mills, which is equipped with wide jacquard looms, is on the point of starting production. W. C. Hamrick, Jr., and L. A. Hamrick are associated with this new fancy goods mill.

Fact and Gossip

*MORRILLTON, ARK. The local Chamber of Commerce confirms the report that it is negotiating with a company relative to the establishment of a cotton mill at Morrillton. The project is expected to mature at an early date.

WILLIMANTIC, CONN. Commenting on the proposed efforts of the strikers at the American Thread Co. to end the strike, which started in March, 1925, Agent Don H. Curtis states that the matter as far as the company is concerned is a closed book. No arbitration is likely. The situation at present does not warrant such a move. The company is employing all the help it needs, and there would be no place for the strikers.

GRIFFIN, GA. The eight cotton mills and the three hosiery and knitting mills are running full time now, and the money spent in payrolls here amounts to about $50,000 per week, which is a great stimulus in local business. Several of the mills are now getting new orders, and the outlook is more promising than in some time past, it has been announced by officials of several of the mills.

ADAMS, MASS. The Berkshire Cotton Mfg. Co. has returned to full operation after being closed five weeks by a strike of 1,800 employes, the first in its history. By agreement reached at a conference held on July 27, the three-frame system in the card room, which caused the walkout, will be abandoned, and the limit in the spinning room will be reduced from 16 to 12 sides per worker. All other questions are to be settled amicably.

CLINTON, MASS. The Lancaster Mills suspended operations completely on July 31 for a period of six or seven weeks.

FALL RIVER, MASS. The Globe Yarn Mill No. 1 of this city resumed operations Aug. 2 after a shut down of 13 weeks. Plans are being made for starting operations in the company's No. 2 mill here in a short time. The two mills employ about 450 hands.

WEST WARREN, MASS. Several departments of the Warren Cotton Mills of the Thorndike Co. are now operating on a full time schedule with indications that the production mark will shortly reach its normalcy.

MANCHESTER, N. H. The Amoskeag Mfg. Co. has adopted a production schedule of about 70% of capacity at its mills and purposes to keep on this basis for a number of weeks. The cotton division will soon be closed for a two weeks' period for employes' vacations.

CHERRYVILLE, N. C. The Vivian Spinning Co.'s Mill, together with 26 acres of land, situated in this city, was sold July 31 at a receiver's auction for $31,500, to George Spurling, a large cotton planter in Cleaveland county, who was a creditor of the mill for a shipment of cotton. The bid is open for 20 days.

GASTONIA, N. C. The McAden Mills, at McAdenville, will in the future be operated by electrical power furnished by the Southern Power Co., the power company taking over the waterpower privileges of the mill. Negotiations have been under way between the two concerns for some time. The building of the dam at Indian Hook by the Southern Power Co. made the water rights of the McAden company necessary to the former concern. R. R. Ray is general manager of the mills and Henry McAden of Charlotte is president. The mill was built in 1882 in the open country, but a town has developed around it, and many other mills have since sprung up in sight of it. It has 27,000 spindles and 350 looms.

GREENSBORO, N. C. The White Oak Mills, Revolution Cotton Mills, Proximity Mills and Proximity Print Works, all closed down Saturday, July 31, for a two-weeks vacation period. The plants which are known as the Cone chain of mills will be idle until August 16.

GREENSBORO, N. C. Confirmation of the resale of the Mecklenburg Mills properties at Tuckertown, Newton and Charlotte, was made July 29, by Judge Webb, United States court district jurist. The mills were resold to Clarence C. Hale, of New York, who was the first purchaser. The original sale was made in April by S. S. Alderman, special master of the sale. Because the two parcels of real estate had not been properly described in the legal advertising preceding the first sale, Mr. Hale could not get a perfect title. The sale price of $253,000 was the same as the first sale. The Mecklenburg Mills which went bankrupt in 1923, are the Mecklenburg mills of Charlotte, Newton and Clyde mills, at Newton and the Nancy mill at Tuckertown. An order confirming sale was filed July 30 with clerk of United States court here.

KENT, OHIO. The Mason Tire & Rubber Co. has arranged a capacity schedule at its local fabric mill, running on three full shifts daily with maximum number of employes. This basis will be maintained for an indefinite period.

PAWTUCKET, R. I. The J. & P. Coats, Inc., Rhode Island thread manufacturers, will close down their 11 mills from Aug. 13 until Sept. 1.

WOOL

New Construction and Additions

CHICAGO, ILL. The Independent Felting Co., 3214 Filmore St., is having plans prepared for a new two-story mill in the Loop district, estimated to cost approximately $65,000, with equipment. A. Epstein, 2001 West Pershing Rd., is architect and engineer.

LEICESTER, MASS. The Leicester Woolen Co. is to change its equipment by the installation of broad looms instead of the 40 plain narrow looms now in use.

WEST WARREN, MASS. The old No. 4 mill property of the Warren Cotton Mills of the Thorndike Co., has been sold to a carpet concern through its representative, Lawrence Ashworth, Boston, Mass. The mill, which has been idle for several years, is to be renovated and will be used by the new owner for the manufacture of automobile upholstery and rugs.

*AMSTERDAM, N. Y. Construction work on the new warehouse of the Shuttleworth branch of the Mohawk Carpet Mills, Inc., is progressing with a large section of the exterior walls now completed. It is estimated that about 20,000 sq. ft. of additional space will be afforded with completion of the plant.

PHILADELPHIA, PA. A new concern called Kimberly Mills Co. has started business in the B. F. Goodrich Bldg., 23rd & Allegheny Ave., on the fifth floor. This company, which is still in the formative stage, is manufacturing automobile interior cloth and has as an initial equipment 40 looms and supplementary machinery. C. R. Downes is the principal factor interested in the new company.

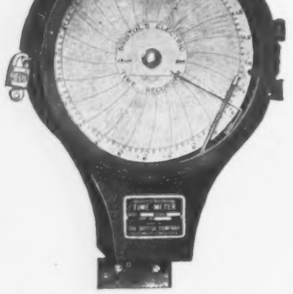
*CHATTANOOGA, TENN. The Peerless Woolen Mills have awarded contracts for the following on their 142 by 430 ft. addition of mill type, brick walls, steel framing, wood floors, and sprinkler system, costing $100,000: Brick work, J. W. Edwards, and Converse Bridge and Steel Co., of Chattanooga, now constructing steel frame. Construction on building has commenced. Ultimate cost including machinery is $600,000.

ARNPRIOR, ONT., CANADA. Kenwood Mills, Ltd., are erecting an addition to their plant to take care of new drying and napping machinery necessary to make felts for the 274 inch paper machines to be installed in one of the new paper mills in course of construction. The building additions include extension of the main mill building and a new two-story office.

Fact and Gossip

THOMPSONVILLE, CONN. After a two weeks' trial on a new wage scale at the plant of the Bigelow Hartford Carpet Co., 140 setters, all women, went on a strike July 30. These are the same workers who went on a strike July 16; but returned after a conference and

Mechanical Motions ---*Graphically*



That's what the Bristol Motion Recorder presents—a graphic record of mechanical motions—on easily read charts.

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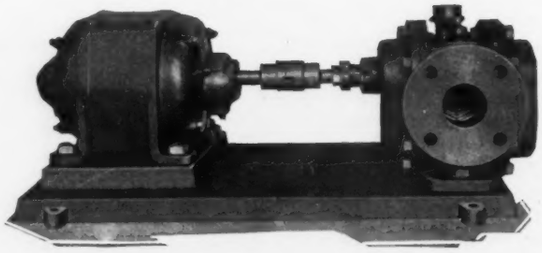

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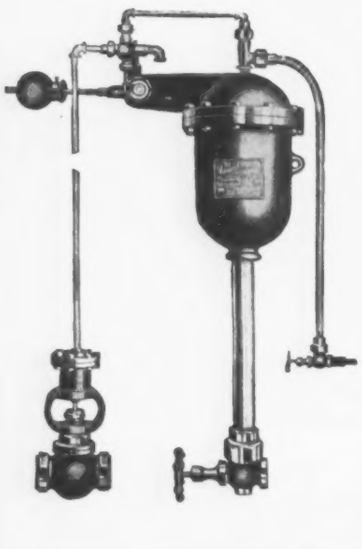

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CHICAGO, Marquette Building
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CINCINNATI, Traction Building
ATLANTA, Candler Building.
PHOENIX, ARIZ., Heard Building
NEW ORLEANS, 344 Camp Street
HOUSTON, TEXAS, 1011-13 Electric Building
DALLAS, TEXAS, 2001 Magnolia Building
DENVER, 444 Seventeenth Street
SALT LAKE CITY, 405-6 Kearns Building
SAN FRANCISCO, Sheldon Building
LOS ANGELES, 404-406 Central Building
PORTLAND, ORE., 805 Gasco Building
SEATTLE, L. C. Smith Building
HAVANA, CUBA, Calle de Aguiar 104
SAN JUAN, PORTO RICO, Royal Bank Building
HONOLULU, H. T., Castle & Cook Building

Mill News—Continued

agreed to give the new wage schedule a trial. The committee of setters reporting on the results of the trial assert that the cut is considered too drastic. The top weekly wage was reported as $22; the average wage was $17. Should the strike continue for any length of time the entire Axminster department may be forced to close down.

CLINTON, MASS. The wool department of the Bigelow-Hartford Carpet Co., has gone on a four-day weekly schedule, while the remainder of the plant is operating five days.

CLINTON, MASS. The Roubaix Mills, Inc., are now operating at close to capacity on day shift and have orders which promise good running schedules for some time to come.

HOLYOKE, MASS. The Farr Alpaca Co., resumed operations on Aug. 2, following a week's shut down for employes' vacation, during which time repairs and improvements have also been made to equipment. The mill is now giving work to about 3,000 persons.

NORTH ANDOVER, MASS. Marked curtailments are being made at Sutton's mill. Some departments are being operated not more than two days a week. In others the operations vary from time to time.

UXBRIDGE, MASS. The Elmdale mill of S. F. Scott & Sons, Inc., shut down on July 24 until Aug. 9 for the annual vacation for employes.

PENACOOK, N. H. The Harris Emery Co., has resumed production at its mill on a full time basis following a partial curtailment for two weeks to allow for machinery replacements and repairs, and other plant improvements. It is understood that a night shift will also be placed on regular schedule.

RENSSELAER, N. Y. F. C. Huyck & Co., woolens, will resume operations Aug. 9 after a week's suspension for repairs and inventory.

MCKEE'S ROCKS, PA. Fire last week damaged a portion of the plant of the McKee's Rocks Upholstering Co., with loss reported at $15,000, including equipment. It is planned to rebuild.

PHILADELPHIA, PA. S. B. & B. W. Fleisher, Inc., 25th and Reed Sts., worsted yarn spinners, have sold a small plot of ground located at southeast corner 25th and Wharton Sts., for $23,000.

PHILADELPHIA, PA. Assets of Mark D. Ring's Sons & Co., 69th and Haverford Ave., spinners of carpet and knitting yarns, will be sold at public auction by the equity receivers, John J McCloskey, J. Stuart Barr and R. Bruce Wallace. Auction will be conducted under auspices of Samuel T. Freeman & Co., being held on the mill premises at 10 A. M. Receivers have been operating the plant since June 13, 1923, continuing until Feb., 1926, when they advised the court further operations were inadvisable, and the court instructed receivers to dispose of the mill.

NORTH SMITHFIELD, R. I. Because of the unprofitable basis on which new business is now being taken by commission combers the Branch River Wool Combing Co. is planning to close its plant indefinitely at the end of August, or until such time as manufacture is possible upon a reasonably profitable basis.

MEAFORD, ONT., CANADA. Randle Bros., manufacturers of woolen yarns and blankets have re-opened their plant after several months idleness.

KNIT

New Construction and Additions

*FLORENCE, ALA. The proposed mill to be erected on local site by the Gardiner & Warring Co., Amsterdam, N. Y., will be three-story, brick, 60x280 ft., estimated to cost $75,000. Lockwood, Greene & Co., New York, are architects and engineers.

FULTONVILLE, N. Y. The Becker & Ellis Silk Co., has added new machinery since taking over the plant formerly operated by McKeough & Yates. Six machines are now engaged in producing pure silk tricot cloth while the working force has also been enlarged.

STATESVILLE, N. C. Permit has been let for the erection of a two-story addition to the Walton Knitting Mills. The building will cost $2,500. Additional machinery and equipment will be installed therein.

*WOMELSDORF, PA. Work on the branch factory of the Nolde & Horst Hosiery Co.'s branch factory at this place is progressing satisfactorily. Work has started on a large boiler house, which will have a smoke stack 150 feet high, 17 feet square at the base and five feet square at the top. The foundations for the main structure are progressing.

PULASKI, VA. The Paul Knitting Mills, Inc., let contract to C. J. Kennedy, local contractor, for concrete and steel and brick stair tower, 14 by 20 feet, and 30,000 gallon wood water tank.

Fact and Gossip

*MALDEN, MASS. Harold K. Osgood, Boston attorney, has been appointed receiver for the Cub Knitting Co., following the recent filing of a petition in bankruptcy by the company. He will act under a $10,000 bond.

NEWARK, N. J. Merger plans have been arranged between the Smartsilk Hosiery Mills, Inc., 585 North Third St., Newark, and the Pure Silk Hosiery Co., Chicago, Ill.

ALBANY, N. Y. The Noe-Equl Textile Mills have opened a branch office in the Childs' Building in this city which will serve as district headquarters for salesmen of the company.

BALLSTON SPA., N. Y. The Ballston Knitting Co. has orders ahead which will insure capacity production until the end of the year.

GLOVERSVILLE, N. Y. Jeremiah Wood has been appointed ancillary receiver for the Super-Weave Glove Silks, Inc., under bond of $30,000. A petition in bankruptcy was filed recently against the company.

NEW YORK, N. Y. Cornelius A. Baldwin, recently appointed receiver for the Enell Knitting Mills, Inc., 108

*Indicates previous mention of project.

SYNCHRONOUS MOTOR CONTROL

A 500 H.P., 2300 volt Automatic Starter, reduced voltage type with Oil-Immersed Automatic Compensator. The field switching panel is mounted within the cabinet attached to the oil tank. This equipment provides overload and no-voltage protection and, where required, automatic control for a magnetic clutch is included.

The new EC&M Push Button Operated, Automatic Starter for Synchronous Motors, makes starting and stopping a simple and safe operation. It is no longer a job requiring a trained electrician or switchboard attendant.

The motor is started and stopped by pushing a button.

The entire operation is automatic. In the case of a high speed motor, the motor is started on reduced voltage. At a predetermined speed it is automatically transferred to full line voltage and then after a definite time interval, the D.C. field excitation is automatically applied.

Slow speed motors, not requiring reduced voltage starting, are started on full voltage and the field excitation is later automatically applied.

EC&M Automatic Starters for synchronous motors are built for voltages up to 2300 volts.

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DETROIT - DIME BANK BLDG. LOS ANGELES - THOMAS MACHINERY CO. SEATTLE - 570 COLMAN BLDG.
NEW YORK - 50 CHURCH ST AMERICAN BANK BLDG. TORONTO - TRADERS BANK BLDG.

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BLOWER

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Unless you have tried this *new* CADILLAC Blower, you cannot realize the additional power that has been built into it, making it particularly adaptable to conditions in textile mills where it is supreme for removing the lint that accumulates in great volume.

It also acts as good electric motor insurance in keeping the motor windings clean and free from dust and carbon, thus preventing "shorts" and "burn outs" and reducing the fire risk.

With a special attachment made for the purpose, the Blower may be used for spraying disinfectants. There are hundreds of uses for this Blower in any textile mill. Instantly convertible for suction cleaning.

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Reduce your FIRE HAZARD

Prolong the life of your machinery

Blower weight, 6½ lbs.
Shipping weight, 18 lbs.
20 feet highest grade electric cable, with armored plug cap.

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Gives 16" water column pressure
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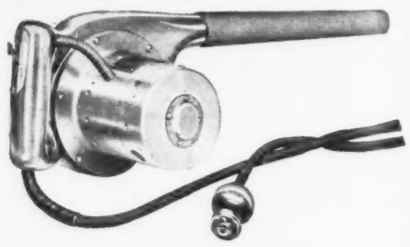

—$45.00 Net—

Complete Set of Vacuum Cleaner Attachments $10.00 Additional

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THE ALLINGTON & CURTIS MFG. CO.
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Vacuum Systems for Cleaning All Departments

Unusual Facts About

McWANE PIPE No. 4

You can now secure rust-proof small pipe for underground water service at a low price per foot. The McWane Company makes the smallest cast iron pipe in America—1¼ inches and upward—equipped with factory-made joints. Minimum of skilled labor to install. Pipe lasts for indefinite period. Investigate.

McWane Cast Iron Pipe Company
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District Sales Offices:
Chicago Philadelphia Dallas Los Angeles

McWANE PRECALKED JOINT PIPE CAST IRON

Mill News—Continued

Grand St., will dispose of the property of the company, including machinery, fixtures and stock, at a public sale on the premises on Aug. 9.

RENSSELAER, N. Y. The Ashe Mfg. Co. has announced an increase in capital stock from $30,000 to $60,000.

WATERFORD, N. Y. Vacation clubs in the various mills distributed last week to employes savings for the past year. The fund shared at the Ford Mfg. Co. was the largest, although amounts divided in other knitting plants reflected the general prosperity now existing.

FORT WORTH, TEX. The Dixie Hosiery Mills have filed notice of increase in capital from $25,000 to $40,000.

SHERMAN, TEXAS. The Pool Knitting Mills, of Sherman, have increased their capital from $25,000 to $50,000.

INGERSOLL, ONT., CANADA. The plant and equipment of the Apex Knitting Co., hosiery manufacturers, Charles St., were sold by auction recently. The plant ceased operation several months ago.

SILK

New Construction and Additions

WOONSOCKET, R. I. The Woonsocket Falls Mill will soon begin the erection of a new two-story brick and reinforced-concrete mill addition on South Main St., to be 23 x 118 ft., estimated to cost $38,000. A general contract for the building recently was let to the Aberthaw Construction Co., Boston.

*COWANSVILLE, QUE., CANADA. Production has already commenced in the plant of the St. Rose Silk Corp., here. The company manufactures silk yarns for export and for Canadian trade. The corporation, which will be the largest silk throwing plant in the British Empire, is owned and controlled by F. A. Strans & Co., of New York City.

Fact and Gossip

PATERSON, N. J. The Glengarry Textile Co., recently formed with a capital of $125,000, to operate a local mill for broad silk production, will be represented by Morris F. Levin, 175 Market St., one of the incorporators of the company. The other incorporators are Milton G. Boyd and Leonard Wentink.

PATERSON, N. J. The Two-Seasons Silk Co., recently formed with a capital of $50,000, will be represented by Hyman J. Stein, 5 Colt St., Paterson. The company proposes to operate a local mill for the manufacture of broad silk. The incorporators are Herman Marcus and Joseph Thieberg.

PATERSON, N. J. The Wapiti Textile Co. has placed its complete throwing plant at 430 Madison Ave., on the market, and will discontinue operations at this mill.

YORKVILLE, N. Y. The Ralway Silk Corp. has filed notice of increase in capital from 1,000 to 2,000 shares of stock, of which 1,000 have par value of $100, or $100,000, total, and 1,000 common, without par value.

PARKESBURG, PA. A silk mill is in prospect for this borough. It will give employment to women, affording an industrial balance with nearby iron works, which employ men exclusively. Business men of the community are negotiating with Aaronsohn Bros., owners of many silk mills. They have secured the Holland site as a good place to locate the silk mill. It is believed that if the business men can assure the silk makers of a dependable supply of help that they will establish the silk mill.

*Indicates previous mention of project.

RAYON

New Construction and Additions

*CLIFTON, N. J. The Napon Rayon Corp. has work nearing completion on the machinery installation at its new local mill on the Clifton Blvd., comprising property acquired a number of months ago from Cupra, Inc., since considerably remodeled and improved. The mill will be of "daylight" type and is expected to begin production in August on a capacity schedule of 450,000 lbs. per annum, and which will later be increased.

HOPEWELL, VA. The Hercules Powder Co., Wilmington, Del., has acquired a controlling interest in the Virginia Cellulose Co. Operations will be continued at the same mill and under the same management as heretofore, with proposed later expansion of production facilities for rayon products, including purified linters.

DYE, BLEACH AND FINISH

New Construction and Additions

PATERSON, N. J. The Keystone Piece Dye Works, 320 East Forty-third St., have taken out a permit for the erection of their proposed one-story dye house, 50 x 250 ft., brick, estimated to cost $12,000, exclusive of equipment. Work will be placed under way at once.

WOONSOCKET, R. I. The Columbia Converting Co., Inc., has taken out a permit to erect a one-story building at 886 Third Ave., to be used for garage service. The erection contract has been let to Hector Gadoury, 529 Prospect St., Woonsocket.

Fact and Gossip

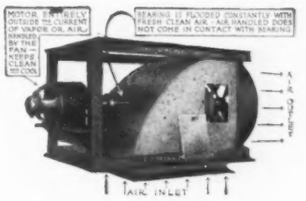
LOS ANGELES, CAL. The Modern-Central Silk Dyeing & Finishing Co., Paterson, N. J., is reported to be considering the establishment of a branch mill at Los Angeles. An official of the company has been looking over available sites.

GLASGO, CONN. The Glasgo Finishing Co. has increased its capital stock from $300,000 to $430,000. The capital structure is now composeed of 1,000 shares of preferred stock, 1,500 shares of Class A common, and 1,800 shares of Class B common.

PATERSON, N. J. The United Piece Dye Works have adopted a system of paying all employes by check, covering a present working quota of 2,500 persons. Arrangements have been made with one of the local banks to honor the checks and on pay-days four windows are given over to the payments, with several clerks acting as traffic managers to keep the lines in order.

WATERFORD, N. Y. The cotton goods bleachery of Cluett, Peabody & Co. will resume operations Aug. 16 after two weeks' shutdown for the annual vacation period.

VENTILATION and VAPOR REMOVAL


MOTOR ENTIRELY OUTSIDE THE CURRENT OF VAPOR OR AIR HANDLED BY THE FAN — KEEPS CLEAN AND COOL
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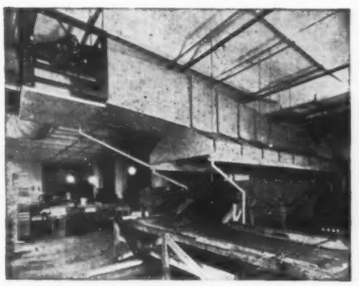
AIR INLET

WING-SCRUPLEX REG. U. S. PAT. OFF. EXHAUSTERS



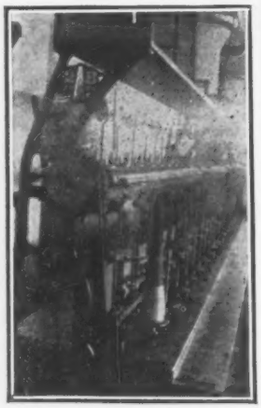
The Wing Scruplex Exhauster shown above is removing moisture laden vapor from a process table. These exhausters are unique in that the motor is kept out of the air stream, consequently they can handle acid laden vapors—concentrated or weak. We make Scruplex Exhausters for all industrial problems. Better consult us!

Write Us Now!

L. J. Wing Mfg. Co.

Fans and Exhausters *Forced Draft Blowers*
Small Turbines *Damper Regulators*

358 West 13th St., New York City



Full Fashion Service Latest Model Winder

2-B No. 25 Full Fashion for Backwinding Silk and Cotton over Emulsion Roller.

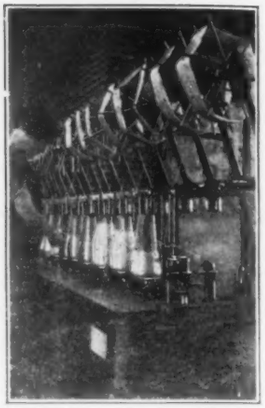
No. 9 Cone also have smaller size for splicing and plaiting.

Self-Oiling Bearings

What the Winder is doing every day. Winding Silk and Cotton without split silk, or cutting of porcelain.

Speed of Spindle R.P.M. 1450.
Winding per minute in yards 325.
60,000 yds. to the lb. 5 thread silk one ounce in yards 3750.
Time to wind one ounce 5 thread in minutes (12¼).
One spindle of 9 hrs. run winds lbs. 2¾ and over.
One filled cone 5 thread silk, ounces 3¾ and takes the time to complete in minutes, 45.
For the normal barrel shaped wind if Full Swell will add more ounces.
Time to empty according to the amount of silk will run from 8 to 14 hours.
The emulsion control runs up to 65% application.
Always the same amount set for, every minute as required.
18 spindle machine will wind in 9 hours of 5 thread silk, net 50 lbs.
24 spindle machine will wind net 67 lbs.
27 spindle machine will wind net 75 lbs.
Allowing for loading and discharge.
You can see in operation 552 heads operating with 54 spindles; means one spindle supplies 10 2/9 heads—a record open for competition.
Guaranteed no underwind and reduces seconds and press-offs.
High speed winding reduces cost per spindle and makes finer hosiery.
Guaranteed not to split the silk or cut into porcelains.
Latest and most up-to-date winder in use.
Knitting yarn package patented February 6, 1917.

Hosiery & Lingerie Rayon Skein Winder



2-B No. 25 S Model for Cones and Bobbins. First mechanical builder made in 1914. Latest in 1926. For Hosiery and Lingerie, etc.

In this very latest model skein winder the easy-starting, non-lift spindle (patented 1925) stops breaking of thread in starting up for high speed.

The guide is of distinctly new type and cannot get out of position. It is fool-proof and adjustable, will not cut or chafe the yarn, and will detect all knots and slubs.

This skein winder has a new type traverse for high speed of spindle and a new method of constantly oiling the yarn.

Remember also the new yarn guide, taking the place of the long wire thread guide; and the new non-lifting spindle.

Winds Bobbins or Cones as required according to machine used on.

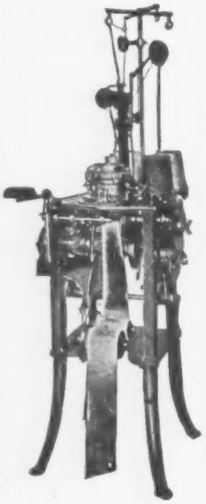
Self-Oiling Bearings

Knitting yarn package patented February 6, 1917.

JACOB K. ALTEMUS
Established 1865
WINDERS SPOOLERS WARPERS
Textile Machinery
American St. below Lehigh Av., PHILADELPHIA, PA.
BEAMERS & KINDRED MACHINERY

NEEDLES and MACHINES
OF
RECOGNIZED QUALITY and WORTH

Acme A



Revolving Cams

are the

ACME PRODUCTS

made for

SERVICE

in the

KNITTING ROOM

Ask those who use them

Acme D

Revolving Needles

Acme Knitting Machine and Needle Co., Franklin, N.H.

Established 1870 Incorporated 1890

Get Repeat Orders by Using

Crane Spring and Latch Needle Knitting Machinery

SOME CRANE FEATURES

Patent removable hardened Wing Burr Wheels.
Patent Thread Stop Motion can be fitted to 20 in. and 32 in. frames and are specially adapted for making fine Jersey Cloth and Stockinet.
Our flat machine is adapted for knitting collarettes.

SPRING NEEDLE UNDERWEAR MACHINE WITH AUTOMATIC TAKE-UP

This machine is made in sizes from 13" to 26" in diameter of any desired gauge, the number of feeds depending on the size of cylinders. Also built in sizes from 2½" to 32" in diameter for the production of a great variety of fabrics.
Aside from the feeds for plain fabrics, the stocklnet, elderdown and astrachan feeds are superior to any on the market.

IMPROVED AUTOMATIC COLORED PLAIN STRIPER

Made in sizes from 7⅝" to 20⅝" inclusive, of any desired gauge; these measurements being back to back of cylinder needles.
The fabrics from this machine are used for bathing suits, theatricals and athletic goods.
These machines are second to none on the market.
The Crawford stop-motion is applied when requested.

"It Pays to Use Good Machines and the Best Are None Too Good."—Our Motto

LET US SEND YOU FURTHER FACTS

CRANE MANUFACTURING CO., Lakeport, N. H.

KNIT GOODS MARKETS

Dropt Stitches

SEAMLESS hosiery developments are following pretty closely the lines laid out some time ago by intelligent students of the market situation. Business has improved considerably in certain types of merchandise, but the situation continues spotty. Broadening of interest is distinctly observable, but the broadening is not yet broad enough to suit many New York selling agents.

Prominent among the types of goods which have participated in recent good buying for immediate delivery are silk and rayon mixtures for women. It has been pointed out on this page before that good mills have been well fixed on numbers of this character for some time past. All-rayon boot merchandise, also, has taken something of an upward turn, business all being for immediate needs.

* * *

IT happened in the underwear market, but the moral is also good for the hosiery manufacturer. A short time ago a jobber came to the New York office of a large mill and asked how much reduction he would be allowed on a duplicate order for fall underwear. His idea was that 12½c under the price he had paid for his initial purchase would be about right.

The selling agent told friend jobber nothing doing. After some argument the latter withdrew, and immediately went to his office and wrote to the mill in question, demanding a 25c reduction on the duplicate order he was thinking of placing, maybe.

The mill refused this kind offer as politely as had its agent in New York. A few days later in walked Mr. Jobber into the office of the selling agent, with him a detailed duplicate order for approximately 90 cases.

And the point is that practically all of these cases were ordered shipped as soon as possible, and the shipments were direct to retailers—the jobber had had the goods sold all the time!

* * *

ON good authority it is declared that volume booked by representative hosiery commission houses in New York during the last two weeks of July exceeded that of a similar two-week period in July, 1925.

* * *

INFANTS' socks, working under a number of obvious handicaps, have done well, according to representatives of quality lines. Many of the rank and file of the jobbing trade have still to place initial business for next spring, but there is every confidence in well informed quarters that this business will be in before the end of the month.

Slow Start for Spring Underwear

Outstanding Exceptions Prove the Rule—Influence of Cheap Southern Lines Probably Exaggerated

SUFFICIENT time has elapsed since the opening of the new lines of lightweight underwear for 1927 to demonstrate that the season will be a slow one, generally speaking. In individual instances which might be cited this generalization does not hold true, but these cases may be considered exceptions which prove the rule.

Business definitely placed since prices were officially named has not been heavy on most lines. Yet the progress of events so far has been far from disheartening, from the manufacturer's viewpoint. It is a weak-kneed sister indeed who is viewing with alarm at this early stage of the game.

There are a variety of angles in the spring underwear situation, but the controlling one is and has been all along the uncertainties with regard to the cotton crop now growing. General caution of the jobbing trade on forward commitments, inroads of cut-and-sewed goods on knitted merchandise, the old North-vs.-South bugaboo—all must take a back seat when cotton is mentioned.

Raw Cotton's Influence

Jobbers, like everyone else, have no clear ideas of what kind of a crop this year's will be. They, like everyone else, have had in the backs of their minds the possibility of a large yield and materially lower prices in September and October. Along with everyone else they have viewed with mild surprise the recent strengthening of quotations on the exchanges, and have wondered whether all the news coming out of the South is entirely unprejudiced—that news, especially, which has to do with weather conditions and the antics of a variety of new-fangled bugs and beetles.

At any rate, being human beings, the rank and file of wholesalers have not a keen appetite for spring goods of any kind at the moment; they want to know a little bit more definitely about raw material prices a little later on.

Under these conditions it may be a reasonable proposition for manufacturers to congratulate themselves on the business that has been put through on light-weights during recent weeks rather than to bemoan their hard lot.

An Exaggerated Angle

Definitely, actual new developments in the market situation are not many. A heavy impression has been made by the offering of a new light-weight ribbed suit, and ribbed shirts and drawers, by a large mill in the South which has hitherto been a dominant factor in heavy-weights only.

Making every acknowledgment of the importance of this particular mill's entry into the light-weight business, and of the extremely competitive prices it is quoting—$6 on a suit weighing about 7 lbs. and $4.12½ on shirts and drawers—it is still possible to draw the inference that the importance of this move and of these prices has been exaggerated in competitors' minds.

That it is severe competition for mills which are well established in the spring goods field there is no question. The revisions of competitive quotations that have been made is ample testimony to that. One mill, at least has met the figures of the southern plant in question, on the union suit, at any rate, considerably to the surprise of the trade, which felt that in this case, as in others, a premium over the price of the new entrant into the light-weight field was deserved.

A Tardy Mill

Much interest has been aroused as to the policy of the mill in the Mohawk Valley which is admittedly most concerned with the new southern-made garments. Prices have not been made by this mill as this is written, although they are expected before the end of the week.

It is pointed out that it is not exactly fair to expect this Mohawk Valley Mill to meet the low price of the southern mill on shirts and drawers, inasmuch as its two-piece garments are full-combed while those of the southern plant are carded.

The New York State mill referred to last year opened at a price of $4.75 for its shirts and drawers, and it is reasonably safe to assume that its quotation on 1927 goods will not be lower than $4.37½, if the garments are not changed in quality.

New Morris Policy

Complete abandonment of the men's cotton underwear field by A. V. Morris & Sons did not come as a surprise to those in the trade who have known which way the wind was blowing during recent years. Dropping of the balbriggan product of this important manufacturer was regarded as extremely significant when it was announced a short time ago, and the complete withdrawal from the cotton goods field of a mill which has been in the business for 45 years can be considered as nothing less than a sign of the times.

Tribute should be paid to those mills which admittedly have already booked a substantial business on light-weights of various classes. Their numbers are not large, but they are representative of what may be accomplished with distinctive merchandising policies. In one case it is known that on a branded nainsook line in the $1 retail class more business has been booked so far since the opening than in the same number of days after the opening last year—and last year came pretty near to being a record one for early nainsook business.

In other words, all is not wailing and gnashing of teeth. With the realignment of production that has been going on there should result a fair to good season on light-weights for good mills. It may be a draggy one, but for the rank and file of mills there seems to be nothing to do about that.

Stamper & Kaiser Dissolve

The partnership of Stamper & Kaiser, hosiery selling agents, New York, has been dissolved as of Aug. 2. The May Hosiery Mills, Inc., Burlington, N. C., have opened a New York office under their own name at 93 Worth St., occupying the space formerly used by Stamper & Kaiser, and distribution of the well known May line is in charge of H. M. Kaiser of the old selling agency. Associated with Mr. Kaiser is M. L. Witkoff.

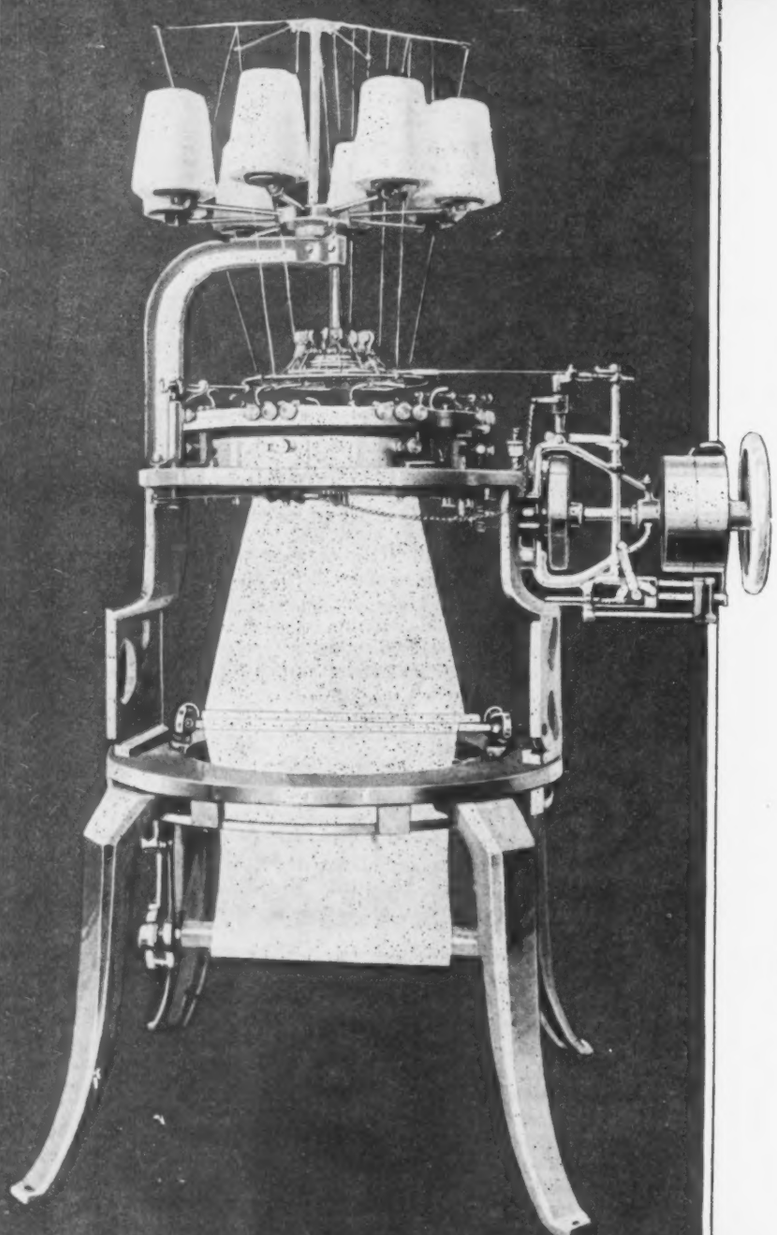
Albert A. Stamper, the other partner of the firm of Stamper & Kaiser, has gone into business for himself under his own name, and has opened an office at 93 Worth St., taking over part of the space previously occupied by Joseph M. Kahn & Co., Inc. B. A. Fink, previously with Stamper & Kaiser, is associated with Mr. Stamper.

The partnership of Stamper & Kaiser had been in existence for the last seven years, and announcement of its dissolution came as something of a surprise to the trade.

It is understood that the May line will be expanded, and that every effort will be made to broaden its distribution to the jobbing trade.

Canadian Retailers Push Full-Fashioned Hosiery

TORONTO, ONT., CANADA.—The Success Federated Distributors of this city, an organization of retail stores show how an exchange of ideas is profitable to the different members comprising the group, and how this in the end assists the textile manufacturers. Several months ago department stores located in the smaller cities of Ontario were selling little full-fashioned hosiery, consequently few merchants stocked this line. However, since the establishment of the Federated group of department stores with stores located in a number of Ontario cities, the merchant members have purchased large stocks



Our *experience* goes with each Wildman Machine

WILDMAN
THE WORLD'S STANDARD

WILDMAN MANUFACTURING COMPANY
Norristown, Pa.

We have issued a new edition of the complete and informative book, "The Science of Knitting." Price $2.00.

WILDMAN
SPRING NEEDLE BODY MACHINE

Knit Goods Markets—Continued

of full-fashioned hosiery which is being rapidly sold. This has been a benefit to the textile manufacturer and has also encouraged the citizens to purchase their better grades of hosiery in their own town instead of patronizing the mail order houses in the larger cities.

Morris Abandons Men's Cotton Underwear Field Entirely

Following closely on the heels of the news that A. V. Morris & Sons, Amsterdam, N. Y., had withdrawn from the field of balbriggan manufacture, came the announcement this week that this important mill has entirely abandoned the production of all classes of men's cotton knit underwear. From the standpoint of the development of the underwear business during recent years the importance of this announcement can hardly be exaggerated.

The Morris mills will continue to manufacture a line of men's and boys' percentage sweaters, which will be sold to the jobbing trade as in the past by W. C. Black from their New York office at 93 Worth Street. The line of women's rayon undergarments, which has been manufactured for a comparatively few months, will be continued, and will be distributed to the retail trade direct by Rowland Spain, New York.

A. V. Morris & Sons have been important figures in the staple underwear business for 45 years. Ten years ago they cut a large figure in the wool goods business, and during recent years their production has been concentrated on men's heavy-weight cotton ribbed goods and on balbriggans.

Official announcements of the mills' withdrawal from the men's cotton underwear field did not contain any explanation for the decision, but this explanation is obvious to those in the trade who are familiar with the policy established for this well known plant by its founder.

Bathing Suit Developments Strengthen Argument for Later Later Opening

Practically all lines of bathing suits are now officially open for the 1927 season, a few of those which had been holding off having made prices early in the week. Jobbers have pursued the same deliberate course they have followed with regard to all merchandise for next spring, and business booked so far has not been heavy.

It is probable that the development of the season will follow closely along the lines of recent years. Business which is described as fair to substantial is reported to have been booked by leading low-end mills which have named particularly low quotations, and it is likely that general activity will be delayed until these mills have taken the bulk of what they want in the way of initial business.

From the standpoint of retail sales this summer is proving to be almost ideal. If all stocks in distributors' hands are not cleaned up before the end of this month it will not be the fault of the weather.

Developments since first openings were announced seem to enforce the position of those mills and selling agents who believe that the trade must get away from the old idea of the proper time to open new lines.

Scheduling & Timekeeping

(*Continued from page 57*)

report is not perforated and is retained in the payroll department. The "in and out" cards are then extracted and direct labor cards sorted out mechanically in the same sequence as job time cards by the sorter. A punch operator transfers the total standard time, the actual time and the pay amount for the pay period to the respective job time card. A check of these cards after punching is obtained by comparison of the totals secured by the department from these cards with the totals obtained in payroll reports corrected by changes if discrepancies were reported by the employes.

From these cards is then punched payroll and efficiency report as shown in Fig. 8. It is used as a basis for the preparation of the payroll. Pay envelopes, previously addressographed with the employe's classification, are then prepared in the same sequence as the names are listed on the payroll report. Pay envelopes are distributed by payroll clerks, or by the foremen or their assistants. Each employe inspects the contents of his envelope and if it agrees with his slip from the first payroll report, he signs the slip and returns it to the payroll clerks. A copy of this payroll and efficiency report is given to the department manager and foreman, thereby enabling him to check the efficiency of his department and of individual employes where he desires to do so. A comparison of the standard time and actual time shows the efficiency during the time the employe worked. A comparison with the attendance time and standard time shows time lost by the employe in the department. If desired a fourth copy of this report can be given to the manager for efficiency control. Interesting and useful comparisons are obtained by practically recording efficiency percentages and the percentages of lost time for department and for plant.

Gunnar Berg With Boyd & Co.

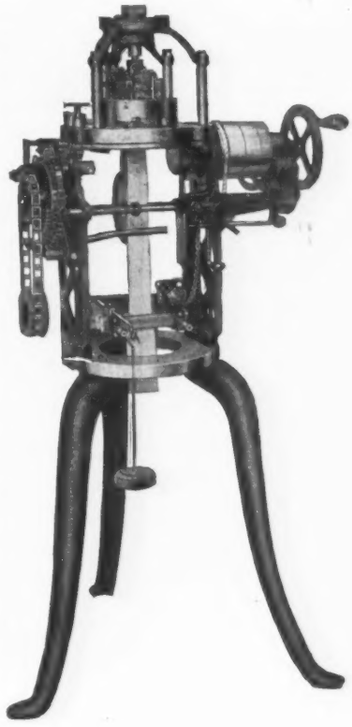
Gunnar Berg, for the last seven years underwear buyer for Claflin's, Inc., New York, has become associated with Boyd & Co., 352 Fourth Ave., New York, makers of women's silk underwear. Mr. Berg will cover the Brooklyn, New York and Newark territories in his new connection.

Prepare Now!

SOME DAY, in order to increase your production, or to extend your lines, or to increase your earnings, you are going to re-equip your mills.

Market conditions may bring that time sooner than you expect.

Prepare for it now by finding out and being perfectly familiar with the line of knitting machinery that has proven, through long years of service to users all over the world, to be a leader in its class.



Brinton knitters are holders of records for performance, high quality output, economy of operation, and long life, that are your best reasons for installing them.

We will gladly send you full information of our complete line.

H. BRINTON COMPANY
3700 Kensington Avenue Philadelphia

CIRCULAR BRINTON KNITTING MACHINES

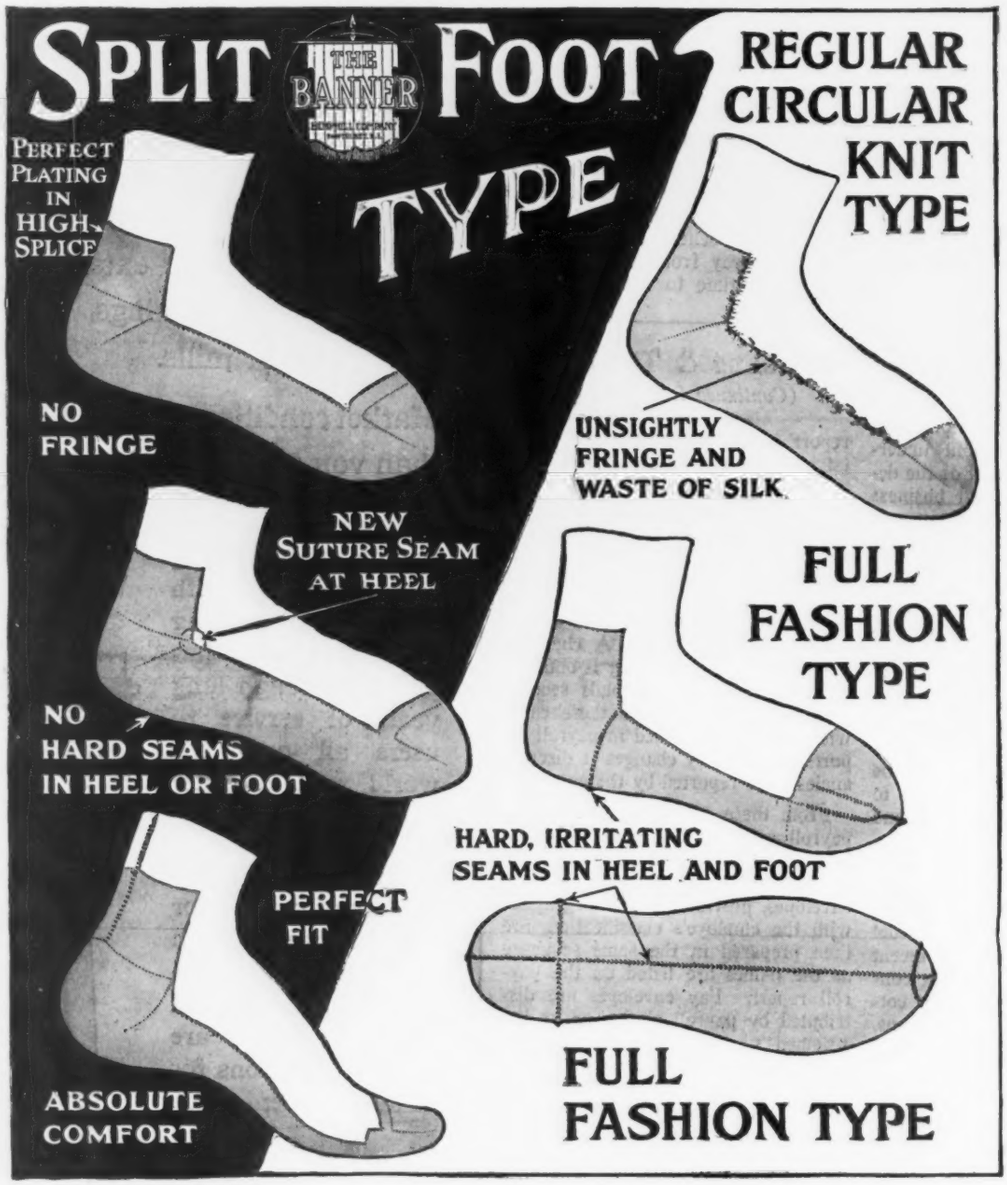
FOREIGN AGENTS

Great Britain and the Continent: Wildt & Co., Ltd., Leicester, Eng.

South America: Santiago Scotto, Moreno, 1756. Casilla Correo 662, Buenos Aires, Argentine Republic.

Australia: J. H. Butter & Co., Sidney, Melbourne.

China and Japan: Elbrook, Inc., 51 Kiangse Road, Shanghai, China



Are You Acquainted with Split-Foot Hosiery?

If you are not acquainted with the Split-Foot Product and the expectant results of your hosiery are smoothness, flexibility, style, comfort and long efficient life, then it is to your advantage to investigate the features illustrated.

These features are only accessible in the hosiery made with "BANNER" Split-Foot machines.

HEMPHILL COMPANY

MAIN OFFICE AND FACTORY

PAWTUCKET RHODE ISLAND

New York Sales and Show Rooms
350 Broadway, New York

Southern Office
James Bldg., Chattanooga, Tenn.

Philadelphia Sales and Show Rooms
Colonial Trust Bldg., 13th and Market Sts.

Southern Mill Village

(*Continued from page* 58)

village for the past five years has been to meet the increased desire for more recreational and educational advantages. You may be astounded with the statement that I am about to make, but many instances and experiences of late enable me to make it without fear of contradiction. If the development, educationally and physically, continues in the industrial village in the South at the same rate as it has in the last few years, in the next few years these former under-privileged primitive folk will stand head and shoulders above the rank and file of their former associates.

The biggest problem, then, in the southern mill village today, is to safeguard a continuation of the development of these people to insure against the likelihood of revolutionary disaster; to meet the ever-prevalent social changes by conscientious, intelligent planning based on a knowledge of social and economic law; and in so doing we must not fail to recognize the danger of mistaking a propaganda fanned emotionally for a true and substantial social consciousness; the former demanding drastic and swift radical changes, the latter favoring a well planned, concrete form of evolution.

Many of the outside public have of late become interested in the southern mill village and many questions and much advice have been forthcoming, some of the most common being: "Why not sell the homes to the people? Why not sell them coal and wood at the market price, making it possible to pay for same by increasing their rate of pay? Why not do away entirely with all control of the operative other than that of supervising him while at work? Is it not true that the mill village is a feudal village in which the people have no voice as to the conducting of their lives? Does it not place within the hands of the mill owners too much control over people thus employed?"

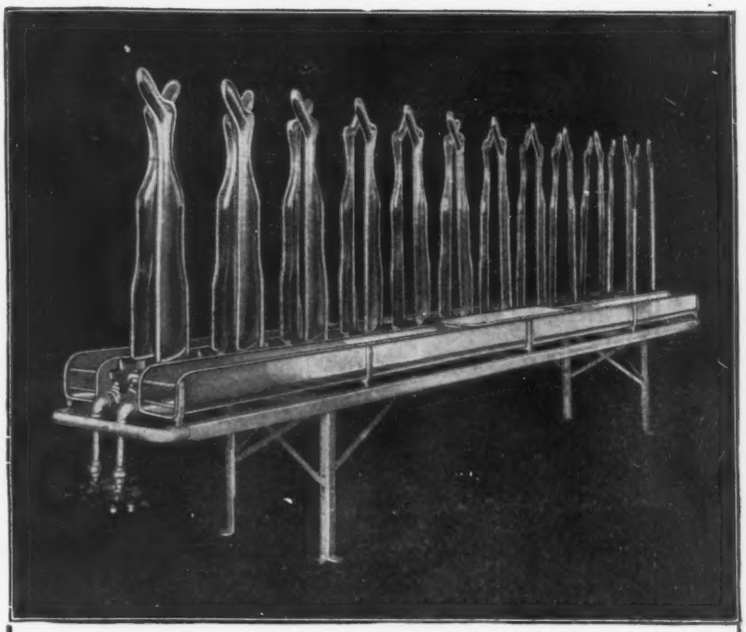
Obstacles in the Way

The mills as a whole are not overenthused over having one-fourth of their entire capitalization in a nonproductive unit, a financial liability. The houses of the mill villages generally rent for 25 cents per room per week, including electric lights, water, and in many cases sewerage; not even enough revenue to keep the houses painted and in good repair. "It has been demonstrated that this free rent equivalent and general village and welfare are expense amounts to $4.36 per operative per week," which, however, if paid to the employer directly in cash would by no means enable them to secure living conditions commensurate with that furnished by the mill owners. Furthermore, were the mills to dispense with their villages by selling the houses to the employes, the original necessity for building these houses would again confront the executives, for from actual experiment it is known that the houses are hardly paid for before they pass through real estate channels at a profit and the employe again seeks cheap rent in company-owned property. I mention this to bring to your attention that this has long been considered a mill problem by the owners themselves, and more serious thought and study have been given to this situation by them than has by these reformers interested in the correction of this so-called social problem.

Suppose the mills had taken the money expended in parks, playgrounds, Y. M. C. A.s, school buildings, etc., and by some system of long division given it to their employes, what would it amount to? If figured on a weekly or monthly basis for the period of time these people have access to and are benefited by these facilities, the individual amounts would be negligible. An actual experience will probably illustrate this idea better. A mill at the expense of $1,500 built a dam, forming a 10-acre lake for the convenience and pleasure of their 1,500 employes and families. Suppose instead $1 extra had been placed in each pay envelope one week. Each employe would have had the privilege of spending an extra dollar independently, but would the lake have been built? Would he have been better for spending that extra dollar himself? And do you think these people would now sell their right to that lake for $1? There is little doubt but that the mills are better able to provide better houses, and to maintain a better and higher standard of living for the same expenditure than the individual buyers could.

The mill village social problem has been met by a unified administration of a social service planned by trained social workers (not mill owners) to meet the needs and demands of the entire personnel of the village, the boy and girl, man and woman, infant and aged. The work has been most conspicuous by its efficient method of operation. No overlapping of work, no useless red tape, no unnecessary delays, have ever characterized its functioning. Because there has been a single purpose ever in the minds of the professionally trained workers at the helm, and that has been to utilize all facilities given by the mill owner for the happiness and development of the entire personnel of employes and families.

Some of you may wonder what I consider as the greatest social needs in the mill villages today. I have in mind three distinct needs of improvement and they might well apply to many localities. First, a better knowledge of the actual cost of labor turn-over to the employe himself; second, a more effective educational program as to proper foods and their respective costs for all members of the family from the baby up, and third, a better system of encouraging and promoting thrift.



Paramount Progress

The increasing number of Paramount Users establishes more firmly than ever before, the Superiority and Efficiency of the PARAMOUNT METHOD for correct hosiery drying and finishing. One of the important factors in determining Paramount Supremacy is the constant improvement of Paramount Equipment to more effectively fill the requirements of discriminating hosiery manufacturers.

We are now in a position to furnish on either a sale or rental basis, the NEW PARAMOUNT ALL-METAL TABLE with ANGLE-BASE ATTACHMENTS, plus an improved and different principle in Low Pressure Steam operation.

This NEW TABLE is made entirely of metal and the troughs are constructed from smooth, highly-polished aluminum. Aluminum is non-absorbent and tarnish-proof, which permits changing from colored to bleached goods by simply wiping out the troughs. All edges are rounded and there are no corners or pockets to collect dirt. The possibility of THREAD PULLING is positively eliminated.

The ANGLE-BASE ATTACHMENT allows the operative to see both sides of the stocking without moving the form. It facilitates and simplifies both boarding and stripping and promotes Quality Work.

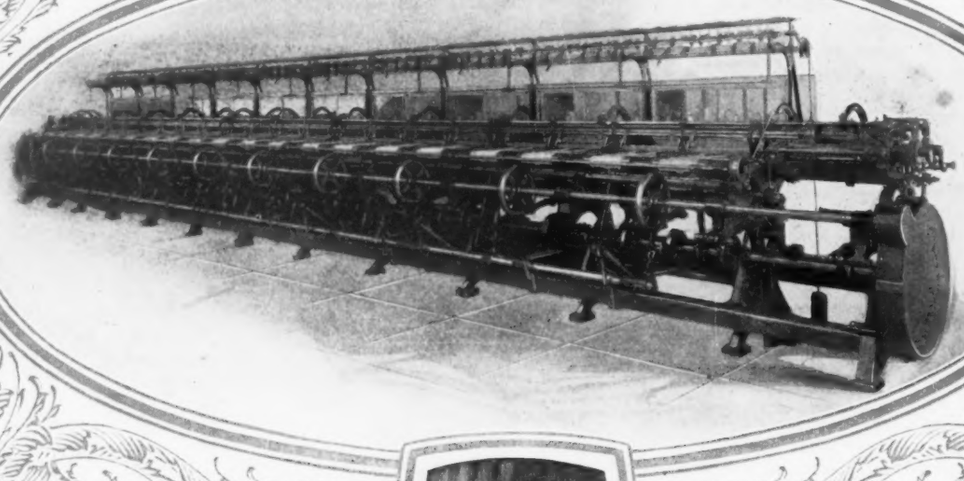
The new Circulating System provides for uniform heating at all times, with unusually low steam pressure.

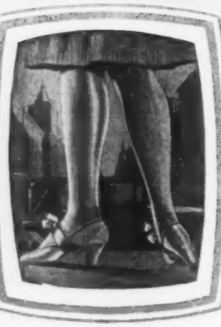
Upon request, we will be pleased to furnish further particulars.

PARAMOUNT TEXTILE MACHINERY CO.

Hunter Building

Market and Madison Streets, Chicago, Ill.





CONSIDERING the fact that "Reading" machines produce more "firsts" for the longest length of time, it is small wonder that over ninety per cent of the Full Fashioned Stocking manufacturers have *standardized* on "Reading."

If your mills will be benefited by such efficiency let us know your requirements.

TEXTILE MACHINE WORKS

Reading, Pa.

The "READING"

FULL FASHIONED HOSIERY MACHINE

FABRIC MARKETS

Cotton Goods Market Remains Active

Good Volume Continues on Gray Goods—Mills Are Firm on Futures

Steady business of good volume continues to be placed on gray goods, and further advances have been registered during the week, particularly on the active print cloth constructions. The tendency toward a broadening of interest in finished goods generally is more plainly evident, but little has been actually accomplished in the way of working up these prices in proportion to the advance in gray goods.

The situation continues somewhat spotty, in that certain trades have bought comparatively nothing during the recent heavy movement, notwithstanding the significant volume buying of other trades. The bag trade has been a consistent heavy purchaser, and it has taken further substantial quantities this week for delivery through October.

If there is anything in the frequently stated theory that the bag trade is the shrewdest buyer of gray goods in the market, the significance of the position it has taken can hardly be overemphasized.

Strong Price Position

Gray goods mills, and print cloth mills in particular, are not keen about forward business, and are asking premiums of 1/8 to 1/4c over current prices for deliveries as nearby as September. The firmness of mills in insisting upon full market quotations is restricting the volume of business to some extent, many buyers apparently being willing to operate at slightly under figures quoted for nearby.

Developments during the last few weeks have fully demonstrated the fact that the market has definitely turned, and a real loss of the ground that has been gained in the matter of prices is hardly possible in the absence of the unexpected in raw cotton developments.

Cotton Goods Quotations

	Aug. 4	July 28	Aug. 5, 1925
Spot cotton, N. Y.....	18.70¢	19.35¢	24.50¢
Print Cloths:			
27- in., 64x60, 7.60..	5¼¢	5¼¢	6⅝¢
36½-in., 64x60, 5.35...	7⅝¢	7½¢	9⅜–9⅝¢
39- in., 68x72, 4.75...	8⅝¢	8½¢	10⅜–10½¢
39- in., 72x76, 4.25...	9½–9⅝¢	9½¢	11⅝¢
39- in., 80x80, 4.00...	10¼¢	10–10⅛¢	12½¢
Brown Sheetings:			
36- in., 56x60, 4.00...	9–9⅛¢	9¢	10¼¢
36- in., 48x48, 3.00...	11–11⅛¢	11¢	12½¢
39- in., 48x48, 4.00...	8⅞–9¢	8⅞–9¢	9¾¢
Pajama Checks:			
36½-in., 72x80, 4.70..	9¼¢	9¼¢	10⅜¢
36½-in., 64x60, 5.75...	7½¢	7½¢	8⅜¢
Drills, 37-in., 3 yd....	11¢	11¢	12¾–12⅞¢
Denims, 2.20s	*14⅛¢	*14⅜¢	*18¾–19¢
Tickings, 8 oz	*18½¢	*18¼¢	23¢
Standard prints	8¢	8¢	9½¢
Eastern staple ginghams, 27-in.....	*8¾¢	*8¾¢	11½¢

*Nominal.

Novel Cotton Goods Publicity

AUSTIN, TEXAS.

THE Postex Cotton Mills, of Post, Texas, is making a unique window exhibit in leading dry goods and department stores of Texas, showing the process of production of the "Postex" mill products from cotton in the field to loading finished goods on freight cars for delivery throughout the country.

The exhibit is a graphic mechanical display picturing step by step the manufacture of sheets and pillow case tubing, the specialties of the Postex Mills.

Broad acres of cotton, said to be a faithful reproduction of the cotton fields surrounding the mills at Post, Texas, are first shown. From one side of the cotton field emerges an automobile cotton truck, loaded with raw cotton, which enters the mill. The side of the main building is shown complete with its windows, nine of which have been replaced by transparencies. On additional windows in the elevated skylight a well written description of the respective processes of manufacture appears.

As the loaded motor truck comes into view, the upper part of the mill is lighted, and immediately the transparency below shows the picking machine, the first process in the making of the cloth. A section of the wall then gradually lowers and reveals a sample of the cotton as it comes from the picking machine. In a second or two the wall closes and a second transparency shows the carding machine, following which comes another sample of cotton illustrating the progressive method used in the preparation of the raw cotton.

Seven additional series show, in proper sequence, the processes of roving, spinning, warping, weaving inspection, bleaching, the making of sheets and pillow cases and the packing of the merchandise for shipment.

As the last transparency is illuminated, a freight car containing a shipment of the product comes into view.

The review consumes about three minutes. The machine reverses automatically, and pictures again and again show the interesting story of the manufacture of a cotton fabric.

Crowds, which are always interested in mechanical exhibits, constantly throng the show windows, where the device is shown.

Fall Silk Season Late But Gaining

Sellers Report Business as Better —Three Thread Georgettes Pick Up

Steady inquiry continued last week for satins, Canton crepes, flat crepes, crepe-de-chines, and once again, georgettes. Prices appeared to be on the up grade and less complaint was heard although the situation is not yet entirely cleared up in this respect. The fall season has been late in getting under way according to a majority of leading houses. Now that it has finally gotten into its swing, it is expected to gain momentum right along. It would not be surprising to see rather active business right through September particularly with the retailers who have been holding off in the hopes of getting better prices.

Reports were heard last week that stocks of the fall qualities were rather large and increasing. This, however, is very much of an open question.

Silk Situation at a Glance

PRODUCTION: Being increased.
DEMAND: Improving, good demand for gray goods.
STOCKS: Smaller.
RAW SILK: Stocks larger; Prices higher.
SENTIMENT: Distinctly improved.

Pacific Mills' Advertising and Sales Promotion Depts. Moved to New York

The Pacific Mills announce the early removal of their sales promotion and advertising departments from Boston to New York, where they will be located at 24 Thomas Street, in the offices of Lawrence & Co., selling agents. This move is being made to bring about closer coordination of the marketing activities.

Cowan, Dempsey & Denger, Inc., New York, have been retained as advertising and merchandising counsel by Pacific Mills, the appointment being effective Jan. 1, 1927. The Franklin P. Shumway Co. will continue to handle the account until that date, and will continue to handle the advertising of Lawrence & Co.

Members of the Shumway organization who have been engaged exclusively in Pacific Mills' sales promotion work in the field will be taken into the Pacific Mills' sales promotion department on Jan. 1.

Donald B. Tansill Appointed Pepperell Sales Manager

Donald B. Tansill, New York, has been appointed general sales manager of the Pepperell Dept. of Bliss, Fabyan & Co. Duncan Rogers has been appointed New England sales manager of this department and continues as advertising manager.

No Trend to Rush Spring Wool Goods

Buyers of Men's Wear Taking Their Time—Women's Wear Gaining

The fancy worsted division of the men's wear market is waiting word of the American Woolen Co's. decision as to spring opening date. The second week of August had been thought the likely time and it is possible that Aug. 11 may be the date; if that is not the date, the season's start will probably go over into the following week.

Since the first opening of worsted staples for spring with all its fireworks, there has been little evidence that buyers are in the spirit for doing much spring ordering. It is said that those among the New York trade who have been felt out, are disposed to wait several weeks yet. The out-of-town trade, however, will probably begin its influx about the middle of the month and better sentiment in this quarter is counted upon to start the ball rolling.

Sellers have had plenty of time to prepare their lines, but it is said that several are actually not ready at present, and that some who had made considerable progress in selecting their styles, are doing much of the work over again in light of recent developments.

Women's Wear Situation

Recent reports to the effect that a number of women's garment makers in New York have settled the strike with their operatives and consequently been enabled to start up, are suggestive of the closing days of the strike. No open move, however, has yet been made for any general settlement.

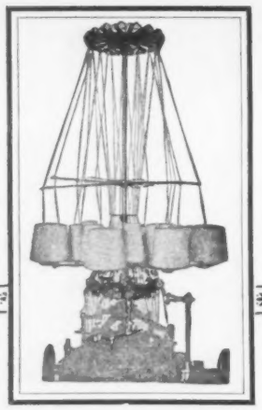
The fact that so many garment men are taking in the deliveries of wool goods made to them on old orders, is regarded as a hopeful sign, but there is still an absence of new business which is depressing to the majority of sellers.

Farish Co. Appointed Selling Agent for Caraleigh Mills Co.

The Caraleigh Mills Co., Raleigh, N. C., have appointed the Farish Co. as sole selling agent. This mill has approximately 15,000 spindles and 500 looms, and is equipped for the production of a complete line of staple and novelty fabrics. It has featured the well known line of Blue Wing Zephyr for both the cutting-up and jobbing trades.

F. & H. to Move Offices to 200 Madison Ave.

The Forstmann & Huffmann Co., Inc., will soon remove their New York offices and salesrooms to new quarters at 200 Madison avenue.



Crawford Stop Motion

E. O. B. Type
for Rayon Cloth Machines

So simple to operate . . . saves so many damages in knitting rayon! Equipped with belt shifter control. Turns waste into dollars. No moving parts—entirely automatic. ***Write us today.***

The Crawford Mfg. Co.
New Brunswick, N. J.

Makes a neater seam

A seam with a lot of frazzles and knotted threads sticking out looks bedraggled as a wet chicken.

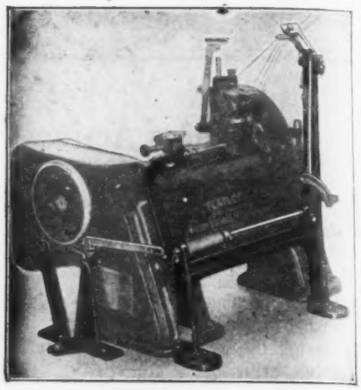
Eliminate rough and awkward seams by using M & B Stop Motion attached to your sewing machine. It stops the machine when a knotted or faulty thread appears.

Used on

Willcox & Gibbs
Flatlock Machine
Merrow Shell Machine
Merrow Edge Machine

Write for details

THE W. S. MILLS CO.
80 Parallel St., Bridgeport, Conn.



M & B STOP MOTION ATTACHED TO WILLCOX & GIBBS FLATLOCK MACHINE

M & B STOP MOTION

Royersford Needle Works, Inc.

The largest manufacturers in the United States of

SPRING-BEARD NEEDLES

Sinkers, Dividers, Etc., for Knitting Machinery

OUR NEEDLES ARE GUARANTEED THE BEST

730 Walnut Street
ROYERSFORD, PA.
Ferdinand Heller, Treas.

Granite State Needle Co.

George W. Mayo, Pres. and Treas.
LACONIA, N. H.

Manufacturers of

First Quality Latch Needles

For All Standard Makes of Machines
"We Make The Best"

A Specialty Made of Banner and Scott & Williams Latch Needles

Refer to Dept. A when ordering

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NEEDLES BECKERT CONTINENTAL

For All Types of Knitting Machines
E. W. S. JASPER, 71 Murray Street, New York
Telephone—Walker 1536

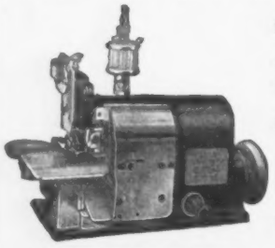
SILK MILL SUPPLIES of Every Kind and Description

Also Power Transmission Supplies for General Mill Use

I. A. HALL & CO.
PATERSON, N.J.

Allentown Reed, Harness and Mill Supply Co., Allentown, Pa.

MERROWING



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REG. TRADE MARK

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OVERSEAMING
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AND
SHELL STITCH
MACHINES
FOR
FINISHING
ALL KINDS
KNITTED AND
WOVEN
FABRICS

THE MERROW MACHINE CO.
14 LAUREL ST., HARTFORD, CONN., U. S. A.

New Jersey Textile **Wire Stitcher**

Highest Grade

Machine for rapid and Economical Method of Attaching Rider tickets to Hosiery or other Garments.

Uses pointed staples, cannot tear the finest fabric

Send for Catalogue

J. L. Shoemaker & Co., 15 S. Sixth Street PHILADELPHIA

THE "MURDOCK"

Keep Your Spindles fully equipped with the

Murdock Bobbin Holders

in the perfection of your goods

Murdock & Geb Co., FRANKLIN MASS.

FINANCIAL MARKETS

More Demand in South

GASTONIA, N. C. July 30.—There was increasing demand for southern textile stocks in North and South Carolina throughout the week, and as a result the average in bid prices moved up 40c per share according to the weekly average just released by R. S. Dickson & Co., which now stands at $110.44 ,as compared with $110.00 for the previous week. A greater interest was shown in common stocks during the week than has been noted for several months, and while a few of the common stocks actively traded in showed minor losses for the week, the gains offset the losses by a comfortable margin, thus resulting in the general average in bid prices closing at a substantial gain over the previous week. A partial list of the common stocks showing the largest gains and slight advances as well as being in demand during the week is as follows: Woodside, Cannon, Victor-Monaghan, Stowe, Marlboro, Eagle, Linford, Perfection, Acme and Climax. There was few changes in the list of preferred stocks, the market remaining practically at a stand still, which is apparently due to the gradual increase in demand for the common stocks.

New England Textile Stocks

(Quotations at "Public Sale" are based upon last sales at Boston public auction and Boston Stock Exchange. Bid and Asked prices are latest quotations of leading Boston dealers.)

	Public Sale	Bid	Asked
Am. Wool. pfd.	71⅛	...	...
Am. Mfg. pfd.	82	80	83
Amoskeag. com.	49⅞	...	...
Androscoggin	53	50	53
Appleton	...	30	35
Arlington	69⅛	67	71
Bates	148½	125	130
Berkshire Cot.	...	133	136
Bigelow-Hfd. com.	83½	...	...
Boott	...	103	108
Edwards	80	50	60
Esmond, pfd.	100	98	...
Everett	35	19	22
Farr Alpaca	164⅝	167	172
Great Falls	12⅛	10	12¾
Hamilton Woolen	52¼	...	...
Hill	25	12	16
Ipswich, com.	55	55	58
Ipswich, pfd.	93½	90	94
Lawrence	67¾	66	...
Ludlow Asso.	170¾	167	171
Lyman	115	112	...
Massachusetts	56¼	54	56
Merrimack com.	99	99	101
Nashua com.	40	44	46
Nashua, pfd.	81	82	85
Naumkeag	160½	157	160
N. E. So. pfd.	10	...	...
Otis Co.	23¼	22	27
Pacific	38	...	...
Pepperell	115⅝	112	115
Plymouth Cordage	135¼	135	139
Tremont & Suffolk	38¼	34	...
York	40	27	32

Silk Stocks on N. Y. Exchange

(Week ending August 2)

1926 High	Low	Stock	Sales	High	Low	Last
39⅜	30	Belding-Hemingway	2,400	32	30½	30½
32⅝	12⅝	Century Ribbon	500	17⅛	17	17⅛
47⅝	33¼	Julius Kayser	1,000	38⅞	38	38⅞
28⅛	15⅜	H. R. Mallinson	400	18½	17	17
22	12¼	Van Raalte	....	....	....	....

A Broader Market Needed

Textile Share Values Suffer for Lack of Right Kind of Publicity to Work Up Public Support

IT will be quite generally admitted that one cause of present abnormally low values of high-grade textile securities is the lack of a broad market for this class of stocks. At various times during the last year or two dealers who specialize in this class of securities have had occasions frequently to state that there has been absolutely no market for such stocks, but, of course, there has always been a moderate demand for high-grade textiles at some price, and for shares listed on the Boston and New York exchanges the demand has been relatively much more active than that for unlisted stocks. It is a fact, however, that the majority of listed textile stocks have declined on the average as much as unlisted stocks whose financial status has been similar. This tends to prove that the mere listing of a security does not provide automatically a better market than existed for the same stocks when unlisted. It is true that for every share of stock offered on the exchanges there usually is a buyer at some price, but at the same price there may be just as large a demand over the counter. It is evident, therefore, that something more than mere listing of textile securities on the exchanges is needed to make a broader and better market for them.

Why a Broader Market?

It is well within the memory of the youngest generation of investors that the attitude of a very large number of New England textile mill treasurers toward the investing public was one of "the public be damned!" This attitude was honest and from their point of view not so very unreasonable; considerably more than a controlling interest in most of these mills was closely held by family groups, estates or commission houses, and the outside investor who showed speculative interest in these stocks was regarded as an intruder. Insiders knew the business and financial status of their companies and as long as regular dividends and extras were paid they cared nothing about stock values; in fact, they would have preferred not to have their stocks quoted and were not disturbed when they were quoted far below their real value.

While in the case of a very few mills, whose stock control is just as closely held as formerly, there has been little change in the attitude of their mill officials towards the investing public, this is now the exception rather than the rule and the majority of mill officials are not only interested in securing a wider distribution of their securities, but also in the stabilization of stock values. This attitude antedated the depression of the last two years and is traceable in large part to the Federal tax laws which placed a premium upon more adequate capitalization of assets than formerly existed, and that has resulted in a large aggregate increase in capitalization and in the floating supply of textile securities. The supply has also been increased by forced realization on textile stocks held by many estates and savings banks. As textile earnings and dividends declined or were passed the supply of textile securities tended to exceed the demand at any reasonable price, and during the last six months demand has been so small that a stock phrase has become current in the market to the effect that "textile securities have no friends." While this was never more than partially true it is given weight by the attitude of banks toward anyone who attempts to borrow on the average run of textile stocks as collateral; this in itself is not so important as is the fact that it reflects the attitude of banks toward many textile mills which are obliged to come into the market for money. The market value of a mill's stock may not determine whether or not the banks will grant a desired loan, but it may influence the size of a loan, the collateral demanded, the number and character of its endorsements and the interest rate. But aside from such considerations it will be generally admitted by mill executives that a broader and better market for textile securities is desirable, and that something of a constructive character must be done to educate renewed and new interest in the better class of textile stocks.

Publicity Is Needed

If it be admitted that old and new investors need to be educated to the investment value of textile securities, it is equivalent to admitting that what is needed is adequate publicity regarding the recent comparative physical, financial and business condition of the mills and their outlook. In criticism of such a policy it may be claimed that a principal cause of present low valuation of textile securities is too much publicity of a bearish character, and to a certain extent this is undoubtedly true. Wide publicity has been given to the depression in the textile industry, to decreased earnings, and to cut or passed dividends, yet few mill executives can be accused of giving wide publicity to lucid financial statements and explanations of these adverse experiences, or to the ridiculously low stock valuations of many textile mills as compared with a fair valuation per share of quick assets and plant. Neither have many executives indulged in more than casual comment upon the various constructive plans for increasing efficiency of plant, reducing costs and improving merchandising. Most of those executives who have been frank in giving out such information, and have seen that it is given publicity through their bankers or directly to stockholders and to the press have certainly not been injured thereby, and in several significant instances interest in their stocks has been stimulated and values have been stabilized or advanced. Bankers handling mill paper and dealers handling textile securities are eager for such information and are glad to pass it on to investors and to the press. Most of the big industrial corporations having large outstanding stock issues that are actively dealt in upon the exchanges not only have organized publicity departments, but usually have accredited brokers to watch the fluctuations of their securities. Something of this kind is quite possible for all but the smallest textile mills.

Time Is Opportune

"But," some may say, "this is no time to start a publicity campaign, for there is nothing but bearish news to give out." Any experienced publicity man knows that such a statement is incorrect and provides its own answer, for if there is nothing to give out but bearish reports they are not news and can have little effect upon a market that is already depressed practically to the limit. Because of this background of depression anything that is honestly favorable to the textile situation is news and will make all the greater impression upon investors. As a preliminary to fuller publicity regarding the financial and business status of textile mills it would be wise to make full admission of the worst features of the situation, if it happens that those have not already been made public. The textile industry of this country ten years from now is to be enormously larger than it is today, and those mills that are now best equipped, managed, financed and merchandised will participate fully in the expansion.

* * *

Financial Notes

Frederic A. Flather, treasurer of the Boott Mills, Lowell, Mass., has been on a pleasure trip to England for the past month and returned last week. Just prior to his departure Mr. Flather was appointed co-receiver with Charles F. Rowley for the Hamilton Mfg. Co. Mr. Flather accepted

Specify—

SAWYER GOODMAN MARINETTE

OUR SPECIALTY—Standard or Special Sizes for Textile Plants

HARD MAPLE FLOORING

SAWYER GOODMAN COMPANY
Marinette, Wisconsin

WARREN B. LEWIS
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Textile Plants ***Steam and Electric Power Plant***

For over twenty years this organization has been engaged in the work of improving mechanical conditions in industrial plants, through the systematic study of machines and industrial operations.

It is still equipped to render this service with the effectiveness resulting from knowledge and experience.

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MILL ENGINEERING
Design, Structural and Mechanical Engineering, Specifications and Supervision of Construction

In Reading, in close touch with textile machinery production, and with experience in Mill Construction, we can offer services of value to executives about to erect textile mills. Correspondence invited.

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5th & Walnut Sts. Reading, Pa.

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PARK SQUARE BUILDING
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FIRE BRICK FOR YOUR FURNACES

Have you ever investigated conditions in your Boiler Room? Do you accept Failures of Fire Brick in your Power Plant just as a necessary evil?

Do you know whether they last a month or a year?

Poor Fire Brick cost you a lot of money in shut downs, cost of repairs and lessened production. Why not use the Best and avoid these losses?

Our Service Department in charge of practical and technical Refractories Engineers will aid you solve your Fire Brick troubles.

Write or wire for booklets and descriptive matter.

QUEENS RUN REFRACTORIES CO., INC.
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Plans and specifications furnished for the construction and equipment of COTTON, YARN AND WEAVING MILLS
MERCERIZING, BLEACHING AND DYE WORKS

Old mills reorganized, extended and appraised. Mill village development. Water and sewage disposal systems.

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ENGINEERS AND ACCOUNTANTS
618 DREXEL BUILDING - PHILADELPHIA, PA
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Design, Specifications and Superintendence for Textile Mills, Industrial Plants and Kindred Structures.

Reorganizations, Valuations and Reports on Mill properties. Power Plants of every description and directions for their economy of operation.

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Specialists in Textile Cost Service
INDUSTRIAL ENGINEERS
Send for free booklet, "Losses in Textile Plants"
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Financial Markets—Continued

only provisionally and finds upon his return that he is unable to give the time and attention which the interests of the creditors and stockholders warrant and has, therefore, tendered his resignation to the court. His successor has not yet been appointed. Meantime Mr. Rowley continues as sole receiver.

Charles F. Rowley, co-receiver of the Hamilton Mfg. Co., cotton goods, Lowell, Mass., filed on Tuesday in the suffolk County Superior Court, Boston, an inventory of the property of the company showing a deficit on the balance sheet of $1,327,286. The inventory, which is dated as of August 3, shows total assets of $4,127,859. Total current assets aggregate $1,209,551 and total fixed assets $2,911,718. Total current liabilities aggregate $1,855,146. The largest of the accounts receivable is an item of $597,058 due from Jarvis, Loomis & Dunbar, selling agents for the company. Notes payable are $735,519 to Old Colony Trust Co., $835,679 to the Chase National Bank, $50,000 to the Springfield National Bank and $50,000 to Arthur R. Sharp, former treasurer of the company.

The Edwards Mfg. Co., cotton goods, Lewiston, Me., which announced last week the passing of its current dividend, reports loss after depreciation and inventory markdowns for the first six months of this year of $43,095. For the first six months of last year the company earned $37,280 and for the first half of 1924 lost $41,139.

The Lyman Mills, cotton goods, Holyoke, Mass., which reduced its current dividend last week from an annual basis of $8 to $6, reports a loss after depreciation for the first six months of this year of approximately $75,000. In a letter to stockholders the directors state that "in view of the surplus accumulated in previous years the directors believe that the declaration of the above dividend at this time is justified. The mill is in good physical condition, has ample cash assets and is borrowing no money."

The Bates Mfg. Co., cotton goods, Lewiston, Me., which reduced its current dividend last week from an annual basis of $12 to $8, fell short of earning its $12 dividend for the fiscal year ended June 30 by only about $56,000. This loss was after depreciation and shrinkage of inventory to a cost or market basis. As of June 30, the company had net quick assets of $4,352,267 and had a total net worth with plant heavily depreciated of $8,555,339. The company's shares have been selling recently around 135, whereas behind each share there are net quick assets of $161 and a total property conservatively valued of $317 per share.

Boston Stock Auctions

The following sales of textile shares were made at Wednesday's auctions:

Shrs.	Mill	Par	Price	Change
50	Dwight	100	18¾	+1¾
15	Androscoggin	100	53½-53	+1
12	Nashua, pfd.	100	81	−2¼
30	Lawrence	100	68-67⅞	+3
50	Arlington	100	69⅛	+1⅛
35	Nashua, com.	100	42-40	−4⅝
55	Nashawena*	100	70¼	+ ⅛
20	Plymouth Cordage	100	135⅝-⅝-¼	+ ¼
1	Naumkeag	100	160½	+1½
56	Lyman*	100	115	−5
5	Ludlow Asso.	100	170¾	+ ¾
329	Total.			

*Ex.-dividend.

Who Wants a Job?

WASHINGTON, D. C.—A $2,400 to $3,000 Government job is going begging!

The Department of Agriculture is looking for several assistant warehouse examiners, whose jobs will be to inspect cotton warehouses in the Cotton Belt to determine their suitability for the storage of cotton and other agricultural products.

Civil Service notices of the pending examinations have been issued but to date no applications have been received. Applicants should apply to the Civil Service Commission, Washington, D. C., for Form 2118, and file it before August 10. It will not be necessary to go to Washington or any other point for the examination.

Business News

School of Microscopy Established

In view of the increasing importance of the microscope in various industries, there has been established the School of Microscopy at room 1500, Pershing Square Bldg., New York, by which those associated with the industry may attend evening lectures and demonstrations. Free use of space at this address, as well as of equipment, has been donated by the Bausch & Lomb Optical Co. The course consists of ten lessons, including three on the microscope, its design, manipulation and accessories; four on slide making; and three on the making of pictures by means of the microscope and camera. The director of the enterprise is Charles P. Titus, former president of the New York Microscopical Society, while E. H. Anthes, assistant manager of Bausch & Lomb Optical Co., is associate director.

Sullivan Machinery Co. Removes Boston Office

The Sullivan Machinery Co., with main offices in Chicago, has removed its Boston office from 201 Devonshire St., to Suite 701, 45 Milk Street. The company feels that the additional facilities provided at the new location will enable its New England sales staff to render better attention to the needs of customers and clients.

KILLINGLY, CONN. The sale of the Attawaugan Mills in this town and Ballouville, which was reported to have been made to Powdrell & Alexander interests, has not yet been concluded. If the transaction had gone through as expected the buyers were to take over the property on July 15. They did not do so and although negotiations are still pending the stock of the mills is being run out and the plants will be closed down indefinitely pending further developments.

Reduction of Textile Mill Operating Costs

may often be profitably effected at relatively small expense.

Slight changes or additions to the mill structure, an improvement in layout of equipment, the replacement of certain machinery, a modernized power plant — frequently result in very material reductions in manufacturing costs.

Such economies have been brought about by this organization in the service of many clients prominent in the textile field.

CHAS. T. MAIN, Inc.
ENGINEERS
201 Devonshire Street
BOSTON, MASS.

Excellent Labor

Labor along the lines of the Central of Georgia Railway is plentiful. Textile workers here are native Americans and are recruited from the rural districts. They are easily trained and are accustomed to do a day's work for a day's wage.

Other advantages of this territory are electric power, convenient fuel and water, and dependable railway transportation.

Let us submit full details.

J. M. MALLORY, *General Industrial Agent*
CENTRAL OF GEORGIA RAILWAY
Savannah, Ga.

CENTRAL OF GEORGIA

PAULSON, LINKROUM & CO.
INC.

COTTON YARNS
of every description for Weaving and Knitting

RAYON

We specialize in Cotton Yarns for Export

52 Leonard St., New York
PHILADELPHIA CHICAGO
PAWTUCKET CHARLOTTE, N. C.

DEPENDABLE COTTON YARNS

Product of

Flint Manufacturing Co.

Many world-famed knitted and woven fabrics are made in whole or in part of Flint fine yarns. At this plant we spin combed 26s to 80s, single and ply, suitable for knitting, weaving, lace and converting purposes.

Quotations and samples promptly submitted.

H. A. FLORSHEIM, *General Sales Mgr.*
225 Fifth Avenue New York, N. Y.

Also exclusively representing

GRAY MFG. CO. PARKDALE MILLS, INC.
ARLINGTON COTTON MILLS ARROW MILLS, INC.
MYRTLE MILLS, INC. ARKRAY MILLS, INC.

Johnston Mills Company

"Direct to Consumer"

Mercerized Yarns

Sole Selling Agents for

Fine Single Mercerized, Bleached, Tinted and Dyed yarns of

THE ELMORE COMPANY, Spindale, N. C.

Two-Ply Mercerized, Gassed, Bleached and Dyed yarns of

SPINNERS PROCESSING CO., Spindale, N. C.

These yarns in all numbers to 100s/1 and 120s/2 have withstood the most exacting tests of the better class of knitters throughout the country, and no effort or expense is being spared to maintain them in the first rank of processed yarns.

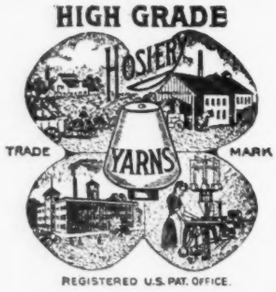
Carded and Combed Yarns

From the established and controlled mills of the JOHNSTON GROUP, suitable for all requirements of the Knitting and Weaving trades.

SALES OFFICES:
NEW YORK: 93 Worth St. PHILADELPHIA: Public Ledger Bldg.
CHATTANOOGA: 805 James Bldg. CHARLOTTE: Johnston Bldg.
READING, PA.

KING COTTON MILLS CORPORATION

HIGH GRADE



MILLS: BURLINGTON, N.C.

Mutual Building, Richmond, Va.
Range: 14/1-24/1

A trade mark in itself is nothing. What it represents is significant. Knitters have come to know the King trade mark for the uniform, economical yarns it represents. Samples — gladly!

Sold Direct

ACME SALES COMPANY

S. L. DIGGLE, MGR.
906 JOHNSTON BLDG. CHARLOTTE, N. C.

CARDED-COMBED-MERCERIZED
COTTON YARNS

ALL COUNTS AND DESCRIPTIONS FOR THE KNITTING-WEAVING-CONVERTING TRADE

Mercerized Yarns by
DIXIE MERCERIZING CO.
IN NORTH CAROLINA

COTTON YARN MARKETS

Active Trading and Higher Prices

Spurt in Buying Becomes More General — Spinners Raising Prices to Current Cotton

PHILADELPHIA.—During the last three weeks conditions in the market have changed drastically, it being one of the most sudden and marked changes experienced by the trade in years. It is no longer a buyer's market as was the case during the first half of the year but the tide has turned and spinners are making the most of their opportunity to raise yarn prices from a level based on 15c cotton, which extreme dullness during the first half of the year forced upon them though cotton actually never approached this level. Spinners are now in position to demand replacement costs on yarns due to the sudden and general decision on the part of manufacturers to buy and prices are in many instances more than 2c above those of two weeks ago.

Improvement in demand is reported by all dealers with a gradual and steady strengthening of prices, and

(*Continued on page* 117)

Are Cotton Yarns Going Skyward?

Possibility of Runaway Market Seen in Attitude of Spinners and the Trade

OPINION is inclined toward the possibility of a runaway market in cotton yarns which may or may not be realized, according to the way in which events develop. If spinners hold to their policy of pegging the market and are not tempted to accept concessions, it is regarded as more than a fifty-fifty chance that these prices will be realized. The firmness of the spinner is not the only element which causes a good many to feel anxious about the future, but the very evident scarcity of yarn in buyers' hands is perhaps the most dominant feature of a situation that is pregnant with possibilities. Dealers have received within the last few days an unusual number of requests by mail and telegram as well as long distance phone, asking for prompt delivery of yarn on contract. Almost universally these requests are accompanied by the statement that the yarn is urgently needed.

Sellers' Arguments Unavailing

Sellers have long tried to impress buyers with the seriousness of the situation, urging them to cover their requirements for a moderate time ahead. They have argued that the buyer has been taking yarn only in small amounts as his daily needs necessitated and that the time was coming when such policy would lead to difficulty if not impossibility of securing such prompt shipment as requirements demanded. In comparatively few instances have these arguments been of any avail, at least with buyers of weaving yarns. Knitters are in somewhat different position, but it is a question whether their status is much more favorable. A good many of the latter have yarn on hand, bought at considerably higher prices than today's levels. In instances this is made up into merchandise which is being offered on the basis of yarn cost. Where the yarn has not been consumed, it is probable that the knitter will endeavor to reduce his cost by buying a sufficient amount to average down his raw material.

It is rather interesting to speculate on the reasons for the present increased firmness of the spinner. The buyer, as stated above, has been willing to increase his limits because of the necessities of his situation. The reasons for higher prices on the part of the spinner are considered to be twofold. They came about as the result of market activity that has had a similar effect in the past. To be more specific, a large wire concern came into the market last month for a considerable quantity of yarn which was taken at prices lower than could be obtained from the spinner. This fact was evidently broadcast throughout the South through the endeavors of dealers to cover on the contracts they had taken. As is usual in cases of this kind, the amounts were exaggerated and many producers gained the idea that a general inquiry was in progress and that it would be possible to sell a large volume of yarn. Consequently they proceeded to jack up their prices, with the result that in instances they secured their asking price from those who needed the yarn. In other cases they have established a basis from which it is apparent they are loth to recede.

Spinners' Backs to the Wall

Another cause for spinners advancing prices which does not take into

Cotton Yarn Quotations

Carded—(Average Quality)

Double carded weav'g and knitt'g yarn 2c to 4c higher, according to size

Single Skeins or Tubes—(Warp Twist)

4s to 8s	28 —28½	20s	— —32
10s	28½—29	24s	— —34
12s	29 —29½	26s	— —36
14s	29½—30	30s	37½—38
16s	— —31	40s	— —49

Two-Ply Skeins and Tubes

8s-2	28 —28½	26s-2	— —36
10s-2	28½—29	30s-2	— —37
12s-2	29 —29½	36s-	— —44
14s-2	— —30	40s-2	— —48
16s-2	— —31½	40s-2 High breakage	— —53
20s-2	— —32	50s-2	— —59
24s-2	— —35	60s-2	66 —67

Single Warps

10s	— —30	24s	— —35½
12s	— —30½	26s	— —37
14s	— —31	30s	— —39
16s	31½—32	40s	— —50
20s	32½—33		

Two-Ply Warps

8s-2	— —29	24s-2	35 —36
10s-2	— —30	26s-2	36 —37
12s-2	— —31	30s-2	38 —39
14s-2	31½—32	40s-2 ordinary	48 —49
16s-2	— —32	50s-2	59 —60
20s-2	32½—33	60s-2	66 —67

8s-3 and 4-ply skeins and tubes; tinged, 24½-25c; white, 28c.

Hosiery Cones (Frame Spun)

8s	— —28½	22s	32 —33
10s	— —29	22s (silver and Jaeger)	33½—34
12s	29½—30	24s	33 —33½
14s	— —30	26s	34 —34½
16s	— —30½	30s tying in	34½—35
18s	30½—31	30s extra quality	37 —38
20s	31½—32	40s	49 —50

Combed Peeler—(Average Quality)

Warps, Skeins and Cones

20s-2	43 —44	50s-2	62 —64
30s-2	48 —49	60s-2	70 —72
36s-2	54 —56	70s-2	80 —85
40s-2	56 —58	80s-2	90 —95

Singles

12s	38½—39	30s	46 —48
14s	39 —39½	38s	53 —55
16s	39½—40	40s	56 —58
18s	40 —40½	50s	58 —60
20s	41 —41½	60s	67 —70
24s	43 —43½	70s	80 —85
28s	46½—47	80s	90 —95

Mercerized Cones—(Combed, Ungassed)

26s-2	59 —61	80s-2	1 12—1 17
30s-2	60 —63		
36s-2	64 —66	**Singles**	
40s-2	67 —69	30s	— —85
45s-2	70 —72	40s	— —90
50s-2	72 —74	50s	— —95
60s-2	80 —83	30s	— —1 05
70s-2	95 —98	70s	— —1 20
		80s	— —1 60

Peeler—(Super Quality)

Single Cones

	Carded	Combed		Carded	Combed
10s	33 —34	42 —44	26s	38 —39	50 —52
14s	34 —35	44 —46	30s	40 —42	52 —55
16s	34½—35½	45 —47	36s	45 —47	57 —60
18s	35 —36	46 —48	40s	52 —54	62 —65
20s	35½—36½	47 —49	50s	— —	67 —70
24s	37 —38	49 —51	60s	— —	75 —85

Combed Cones, Warps and Tubes

20s-2	48 —50	40s-2	60 —65
24s-2	50 —52	50s-2	65 —70
28s-2	52 —54	60s-2	75 —80
30s-2	53 —55	70s-2	90 —95
36s-2	57 —60	80s-2	1 00—1 10

Combed Reverse Twist Thread Yarns—Skeins, Tubes or Cones 2, 3, and 4-ply

	Peeler		Sakelarides	
	Average	Best	Average	Best
24s	— —58	— 63	80	83 —87
30s	— —61	— 66	83	87 —90
36s	— —63	— 68	86	90 —93
40s	— —67	— 72	90	94 —97
45s	— —72	— 77	95	1 00—1 03
50s	— —77	— 82	1 03	1 07—1 10
60s	— —	— 93	1 14	1 17—1 20

Quotations are average prices of the counts and qualities indicated at the close of business Aug. 4. They do not cover lower or higher qualities unless specifically noted. For New York spot cotton prices, see page 123. For staple cotton prices, see page 125.

ABERFOYLE MANUFACTURING COMPANY

MERCERIZED YARNS

MAIN OFFICE
Bankers Trust Building
PHILADELPHIA

Johnston Building
CHARLOTTE, N. C.

323 So. Franklin St.
CHICAGO, ILL.

READING, PA.

James Building
CHATTANOOGA, TENN.

Westaway Building
HAMILTON, CANADA

MILLS
CHESTER, PA.

Cotton Yarn Markets—Continued

account the transactions above mentioned is the feeling that it is almost time for the spinner to make some profit on his product. This has been impossible of late months and the latter finds himself with his back to the wall, determined to resist any efforts to bear the market further and agreed to accept every opportunity to secure an advance. As a matter of fact, there is a feeling that spinners, whether through concerted action or not, have determined to name prices which they realize will not make their product attractive for the time being, but which, if persisted in long enough, they believe can be obtained, with resulting advantage to the whole industry. There is said to be an increasing belief that such prices are represented by 35c for 20s-2 warps and 40c for 30s. This is practically pegging the market and the results remain to be determined. If the scarcity of yarn in buyers' hands is anywhere near as general as the demand for quick shipment would seem to indicate the likelihood of these prices being obtained is generally conceded.

This is not the most important factor, for the realization of these figures may, in the opinion of important leaders, be but the beginning of what may eventually prove to be a runaway market. This may sound like an extravagant statement but thoughtful observers conclude that the possibilities of the market will bear watching.

Plans for Chicago Yarn Tournament

Details have been announced regarding the plans for the fifth annual golf tournament of the Chicago Yarn Men's Circle, to be held at the Park Ridge Country Club, Park Ridge, Ill. Play for the trophy and other prizes will consist of nine holes in the morning, starting at 10 a. m., and 18 holes in the afternoon. A luncheon will be served at noon and the dinner is scheduled for 6:30, to be followed by the awarding of prizes.

Arrangements for transportation to the club, which is located 14 miles from the "Loop" on the Wisconsin Division of the Chicago & Northwestern Ry., include a bus which will leave the station of that railway in Chicago, from the Clinton St. entrance, at 9:30 a. m. (Chicago daylight time); a bus at Niles Center to meet the Chicago and North Shore train leaving Milwaukee at 7:15 a. m. and Kenosha at 7:55; and an automobile at Evanston to meet Chicago & Northwestern train leaving Minneapolis at 8 p. m. The announcement states that those driving to the club should take Rand Road or Northwest Highway No. 19.

The secretary of the Chicago Yarn Men's Circle, at 178 W. Jackson Boulevard, Chicago, has requested that those planning to attend the tournament advise him in advance so that proper arrangements may be made.

Phila. Cotton Yarn Report

(*Continued from page 115*)

large volume of business being reported in carded, combed and mercerized with improvemnt being noted in weaving and knitting, although buying by weavers has been of larger proportions than that received from knitters. Contracts are being placed by manufacturers for their requirements for August and September in most instances and many are going beyond this time and covering needs for the balance of the year, this being especially true in mercerized yarns, hosiery manufacturers having placed contracts of large size for this period.

Shorts Covering

In addition to the large increase in amount of yarn being taken by manufacturers the market has been still further strengthened and in various instances excited to extreme bullishness by covering of short sales by dealers who a month ago could not see any end to the continuous decline in prices which had taken place up until that time. The rise in cotton and in yarns has caught manufacturers, spinners and dealers unprepared and as a result probably the largest volume of business for a like period in several years has been booked by spinners, dealers and commission merchants. Spinners in particular were unprepared and few had cotton ahead, a majority having only sufficient to finish old orders and are now in the market and therefore compelled to demand yarn prices based on this cotton.

The market has been so active and prices subject to so much fluctuation it is unwise to name a price as indicative of the market level. Business, however, of large proportions has been booked at 32c to 32½c for 20s-2 warps of average grade and 36½c to 37c for 30s-2 although all spinners are asking prices higher than these. Carded knitting yarn spinners are quoting basis 28½c to 29c for 10s average yarn and balbriggan underwear manufacturers have placed good volume of business in 22s cones.

Combed Yarns Moving

Combed yarns for mercerizing have been active, over 1,000,000 lbs. being taken by mercerizers during the last 10 days. This interest, however, has declined somewhat at the present time. This business was placed at prices averaging 66c for 60s-2 although spinners are now holding this count at 70c. Prices of combed yarns have not advanced in proportion with rest of the market, weakness continuing in 38s-2 which has sold in large volume recently as low as 50c, mercerizers taking 500,000 lbs. of this one number at this figure, which is three cents under the market level.

Large Mercerized Sales

Mercerizers have booked over 1,500,000 lbs. on new contracts during the last 10 days at prices averaging 78c for 60s-2, some of this business being done at 77c and a smaller por-

GROVES MILLS, Inc.

SUPER QUALITY

COTTON YARNS

COMBED PEELER, 24s to 80s, single and plies

CONES, TUBES, SKEINS AND WARPS

Samples and quotations promptly furnished

SALES OFFICE—

225 FIFTH AVENUE, NEW YORK

MILLS AT GASTONIA, N. C.

VAN COURT CARWITHEN

300 Chestnut Street, Philadelphia, Pa.

Sole Representative

SWIFT SPINNING MILLS — Cotton Yarns of Quality

BRADLEY MFG. CO.

MUSCOGEE MFG. CO. — Whites, Stock, Dyed and Heathers

ALL of COLUMBUS, GA.

FROM MILL DIRECT TO CONSUMER

L. P. Muller & Co.

206 Chestnut Street, PHILADELPHIA — 51 Leonard Street, NEW YORK

COTTON YARNS

Selling Agents

Linn—Corriher Mills—Hartsell Mills Company

12s to 32s Cones — Full Double Carded

10s to 20s — Single and Ply

FORREST BROTHERS

Forrest Bldg., 119 S. Fourth St., Phila., Pa.

Superior Quality Knitting Yarns

Sole Representatives

Bladenboro Cotton Mills—Vass Cotton Mills

8s to 30s Extra Carded

JAMES E. MITCHELL COMPANY

Cotton Yarns

Philadelphia — Boston

GATE CITY COTTON MILLS

Manufacturers of

Superior Quality

WHITE KNITTING YARN on CONES

We sell direct to Knitters and guarantee satisfaction

217 Trust Co. of Georgia Bldg., ATLANTA, GA.

COTTON PRODUCTS COMPANY

Bankers Trust Building, Philadelphia, Pa.

Selling Agents for

SOUTHERN MERCERIZING COMPANY
Tryon, N. C.
Single Mercerized Yarns

A. M. SMYRE MFG. CO.
Gastonia, N. C.
Combed Peeler Yarns
30's to 70's
Weaving and Knitting

TUCKASEGEE SPINNING CO.

Mount Holly, N. C.

TUCKASEGEE SPINNING CO. INC. MOUNT HOLLY N.C.

48s All Plies and Descriptions

The high and uniform quality of these yarns is a result of eternal vigilance in every step from raw material to finished yarn.

Samples and prices cheerfully furnished.

H. A. James

SELLING THE OUTPUT OF OVER 150000 COMBED YARN SPINDLES IN N.C.
GEN. SALES MGR.
450 FOURTH AVE. · NEW YORK. · PHONES: ASHLAND 3930-31-32

THE ELMORE COMPANY MERCERIZED YARNS Spindale N.C.

Single Yarns

MERCERIZED

Licensed Manufacturer
TINTED YARNS

Bleached, Dyed, Mercerized and Glazed Sewing Threads.

THE ELMORE COMPANY
Spindale, N. C.

Selling Agents
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NEW YORK: 93 Worth St. PHILADELPHIA: Public Ledger Bldg.
CHATTANOOGA: 805 James Bldg. CHARLOTTE: Johnston Bldg.
READING, PA.

CANADIAN REPRESENTATIVE
Slater & Co., 53 Yonge Street, Toronto, 2, Canada

Cotton Markets—Continued

tion of it as high as 80c for average quality. Hosiery mills are in the market for yarn to be delivered up until the last of this year. This situation has caused mercerizers to become firm and there is a greater degree of stability to prices, 80c being commonly regarded as the market. Manufacturers are no longer able to find anyone willing to consider inquiries made on basis of 75c for 60s-2 as was formerly the case.

Advances Restrict Demand

Some Direct-Selling Spinners Slow to Meet Advance

BOSTON.—The continued firmness of the raw cotton market together with increasing curtailment of production and a more active spot demand for yarns have encouraged most spinners to advance asking prices of carded yarns another ½ to 1c making a total advance in asking prices during the last two weeks of from 1 to 2c, but the actual net advance on medium and coarse count carded yarns seldom exceeds ½ to 1c owing to the fact that enough direct-selling spinners and a few dealers having stocks or yarns on contract are willing to take business for prompt delivery upon this basis. Increase in competition of cloth mills who are in the market for yarn business is one of the reasons preventing a more general advance in prices, and another is the fact that demand continues small in both individual and aggregate volume.

It is somewhat significant that the cheapest sellers for prompt delivery are unwilling to accept business for October and later delivery excepting at a further advance of ½ to 1c. They have not abandoned hope of a large cotton crop and 15c cotton, but the course of the cotton futures market points in the opposite direction and does not encourage speculation on the short side at the moment. It is barely possible, also, that many spinners are unwilling to increase their short interest in both yarns and cotton. While the advance in yarn has stimulated a little more buying for prompt delivery it has appeared to stifle all interest in forward delivery and this is true even where yarns can be bought within ½c of minimum prices of two weeks ago. This lack of interest in forward delivery is possibly largely responsible for absence of short selling; undoubtedly there are dealers who are just as bearish on cotton as are many spinners, but it takes two parties to make a short sale and the buying interest is absent.

Demand for combed and mercerized yarns is not nearly as active as for carded yarns although prices of the former are relatively lower, with open advances established on staple counts in only a few instances. Of course, asking prices of combed and mercerized yarns have been advanced quite generally, but it will require a considerable increase in the volume of business or advance in the price of staple cottons to establish these advances. The advance in carded yarns is helping spinners of coarse combed yarns to get higher prices, and the improved tone of the market is also helping spinners of specialties to get better prices. Competition of cloth mills is felt in the combed yarn division of the market almost as much as in the carded yarn division, particularly on staple counts of cops and warps.

Cotton Yarn Notes

The Gastonia Cotton Yarn Co. has removed its Boston branch office to the Tarbell-Waters Bldg., 144 Chestnut Street, Springfield, Mass.

* * *

TORONTO, ONT., CANADA.—T. D. Wardlaw & Son, 23 Scott st., this city, have been appointed Canadian agents of McConnel & Co., Ltd., cotton yarn spinners, Manchester, England.

Active Cotton Spindles

WASHINGTON, D. C.—The Department of Commerce has announced that according to preliminary figures 37,694,680 cotton spinning spindles were in place in the United States on June 30, 1926, of which 31,770,900 were operated at some time during the month, compared with 32,267,410 for May, 32,803,042 for April, 33,233,382 for March, 33,023,966 for February, 32,803,156 for January, and 32,287,564 for June 1925. The total number of cotton spinning spindles in place, the number active, the number of active spindle hours and the average spindle hours per spindle in place, by states, are shown in the following table:

State	Spinning spindles (in thousands)		Active spindle hours for June	
	In place June 30	Active during June	Total	Average per spindle in place
U. S.	37,694	31,770	7,606,123,260	202
Cotton-grow'g	17,864	17,007	4,781,456,006	268
New England.	18,057	13,263	2,519,438,706	140
All other	1,772	1,500	305,228,548	172
Ala.	1,462	1,421	380,894,696	260
Conn.	1,205	978	169,012,594	140
Ga.	2,912	2,748	750,134,856	258
Me.	1,130	960	180,316,845	160
Mass	11,482	8,075	1,526,326,560	133
N. H.	1,445	1,058	231,548,617	160
N. J.	415	405	68,819,380	166
N. Y.	916	717	153,337,010	167
N. C.	6,074	5,702	1,679,146,379	275
Pa.	149	124	23,207,871	155
R. I.	2,649	2,079	392,509,318	148
S. C.	5,353	5,239	1,515,037,903	283
Tenn.	566	518	142,332,025	251
Tex.	239	225	60,079,328	251
Va.	711	694	140,124,691	197
All other	978	820	193,295,187	198

Southern Yarn Bulletin

CHARLOTTE, N. C., July 29.—The cotton yarn bulletin of the Southern Yarn Spinners Association follows: "Conditions in the yarn market show a slight improvement both in the size and number of inquiries for both weaving and knitting yarns. The

CANNON YARNS

Cotton Yarns *of* Quality

Quality:—The one essential factor in which we have striven to excel.

Quality:—That finished product which can be obtained only by the use of high grade, long staple, white cotton—modern machinery and equipment—experience and care in manufacturing—and scrupulous attention to details of wrapping, packing, etc.

This combination has made Cannon Yarns

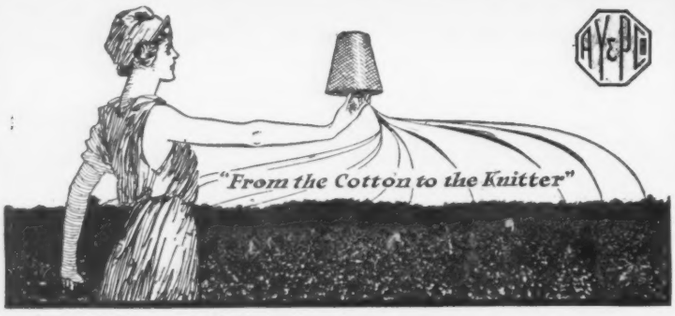
THE STANDARD OF VALUE AND QUALITY

THE CANNON MILLS INC.

PHILADELPHIA

New York Providence Boston
Reading, Pa. Chicago Utica, N. Y.
Chattanooga

THE STANDARD OF VALUE & QUALITY



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AMERICAN YARN & PROCESSING CO.

General Office:
Mount Holly, N. C.

Spinners and Mercerizers

of

High Grade Combed and Carded Yarns

Our Mercerized Yarns are the Product of Our Own Mills

Sales Representatives

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346 Broadway, New York City
PLOWMAN YARN CO.
1049 Drexel Bldg., Philadelphia
HAROLD W. O'LEARY COMPANY
52 Chauncy St., Boston, Mass.
DAVID WHITEHURST
217 Parkway, High Point, N. C.
R. D. McDONALD
924 James Bldg., Chattanooga, Tenn.
THOS. S. TULEY
1318 McHenry St., Louisville, Ky.
G. J. LOERZEL
166 W. Jackson Blvd., Chicago, Ill.
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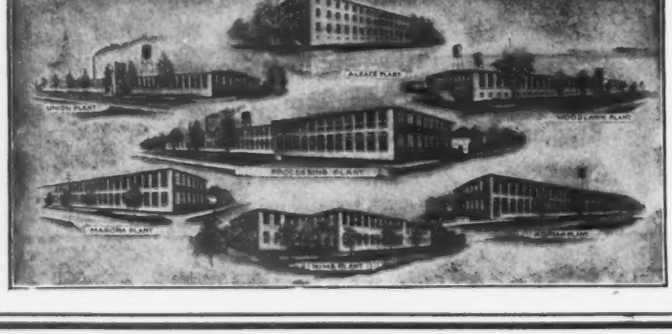
Fairleigh Crescent, Hamilton, Ont., Canada



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MERCERIZED COTTON YARNS Give the high Silk-like lustre
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MONUMENT MILLS, Housatonic, Mass.

HIGH GRADE COTTON YARNS White, Colors, Bleached
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Combed Rev. Thread 26s to 50s

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Philadelphia Textile School

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FORTY-THIRD SEASON
DAY CLASSES, September 15, 1926
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Established 1874 Manufacturers of all kinds of

Spring Knitting Needles

Slides, Sinkers, Jacks, Etc.
NEW BRUNSWICK, N. J.

Cotton Yarn Markets—Continued

tone of the market is considerably improved and spinners' prices are held firm at an advance over reported quotations. The benefit of curtailment is being evidenced as in many instances as buyers have not been able to supply their immediate wants with prompt shipments, and the fact that supplies were not immediately available has materially increased demand. The recent advance in cotton has had a strengthening effect on the yarn market. A further advance in cotton is likely to stimulate the buying of yarns and create an improved market."

Greater Demand for Yarn at Chattanooga

CHATTANOOGA, TENN.—The long anticipated increase in the demand for yarns really began to materialize during the week ending on July 31, according to statements by local yarn men. It is enthusiastically declared that more orders for cotton yarn were placed here than for any week since the summer lull set in.

The price trend, which is toward higher ground, was also the subject of satisfaction to at least the yarn producers and brokers. In general, mercerized prices on the basis of 80c for 60s-2 continued in force, but for the first time in several weeks yarn was purchased at a cent or two above this figure.

Carded yarn prices also had a stiffening tendency, the increase for the week amounted to about 1c. Some orders for 10s singles were placed at as high as 31c a pound. There was also considerably more activity.

The silk market continued rather dull with price averaging about the same as for last week. Prices were around $6.60 per pound for thrown silk.

Japanese Yarn Mills Running at High Rate

BOSTON.—Consumption of cotton by Japan is still running at a very high rate. During June, the Japanese mills spun the same amount as they did in May. The May consumption was the largest up to that month in the history of the Japanese spinning industry, according to cabled advices to the Cotton Service of the Merchants National Bank of this city.

Japan's consumption during June was 224,000 equivalent 500-pound bales, against 224,000 in May and 200,000 in June last year. During the 11 months of the season to the end of June, Japan consumed 2,319,000 bales against 2,026,000 in the same period last season.

While the Japanese mills are fully maintaining their total consumption, however, they are using slightly less American cotton and more foreign cottons. Of American cotton, they used 69,000 bales in June against 73,000 in May and 67,000 in June last year. Of foreign cotton, they used 155,000 equivalent 500-pound bales in June against 151,000 in May and 133,000 in June last year, says the Merchants Bank.

In the 11 months of the season to June 30, the Japanese mills spun 751,000 bales of American against 619,000 in the same period last season, and 1,568,000 bales of foreign cotton against 1,407,000 last season.

Wastes Sell Higher

Firm Cotton a Factor—Percentage Bases Firm

BOSTON.—Firmness in cotton is leading to better prices for some descriptions of cotton waste but it cannot be said that the percentage bases are rising. Good comber sells about 14c at this time but the percentage basis is unchanged as compared with a month ago. General consuming demand is still far from satisfactory but it is considered by some persons to be near equal at this time to the generally curtailed output of the mills. In the background lie large unsold stocks of all kinds of materials, excepting good threads and good comber.

The amount of really good comber available is relatively small. Some well-known New England mills on fine goods have not been operating at more than 50% capacity in recent months and the poor situation in that branch of the industry is shown by three of the best known mills passing their dividends recently. As related to the waste market it means that the output of comber has been very considerably curtailed, much more proportionately than the output of any other kind of waste with the exception of fine threads which of course come out of the same class of mills.

During the last few months cotton waste has to some extent discounted a cheaper cotton and yet it may turn out that wastes to sell satisfactorily must sell at "waste" prices, whether cotton is high or low. During the week the best comber sold on a 73-75% basis with ribbon comber on 70-73% basis. Peeler strips were transferred on 55-60% basis. Picker and fly were unimproved. Threads remained firm.

The cotton waste market in Manchester continues very quiet. Consumers are offering low prices and only buying in limited quantities. Supplies are becoming restricted owing to shortage of coal which in a single town like Burnley closed no less than 37 mills. Neither for hard nor for soft waste is the demand anything like normal.

Current Quotations

Peeler comber	14	—14½c.
Peeler strips	11	—11½c.
Egyptian comber	11	—11½c.
Choice willowed fly	6	— 6½c.
Choice willowed picker	4½	— 5c.
Sak. strips	16½	—17c.
Linters (mill run)	5	— 5½c.
Spoolers (single)	14	—14½c.
Fine White cop	12	—12½c.

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COTTON YARNS
77 SUMMER ST. BOSTON, MASS.

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For uniformly satisfactory
Weaving—COTTON YARNS—Knitting
Sold by
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INDUSTRIAL YARN CORPORATION
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Gassed—Natural—Bleached—Colors
DOUBLE MERCERIZED SPECIAL PROCESS

UNITED STATES TESTING COMPANY, Inc.

Announces

On or about September 1st, the New York Testing House of this Company will be consolidated with its Storage Department at our new plant, Hoboken, and the testing of raw and thrown silk will be discontinued at our old location.

It will no longer be necessary to pay cartage on incoming raw silk from the Pacific Coast, nor risk its theft while on trucks from Railroad to Warehouse, if you use our new warehouse located at 1415 PARK AVENUE, HOBOKEN, near the Lackawanna Ferry Landing at 14th Street, Hoboken, from 23rd Street, New York.

Silk from the Pacific Coast is discharged direct from the cars on our own siding into our warehouse—No cartage, no risk, no delay.

The building is absolutely fireproof and the fire insurance premium is considerably less on silk storage than in any raw silk warehouse on Manhattan Island.

The silk vaults have humidity control.

Shipment of incoming bales can be made immediately upon surrender of bill of lading at our new warehouse. This avoids waiting to get the silk from railroad piers.

No cartage for transferring bales from Warehouse to Testing Department.

On silk arriving from Pacific Coast via railroad after August 14, 1926, have bills of lading read as heretofore, except DESTINATION: "HOBOKEN, NEW JERSEY, HOBOKEN MANUFACTURERS' RAILROAD DELIVERY" and get this service.

No silk for storage will be accepted at our New York plant after August 14, 1926, but silk already in New York submitted for test will be received at 340 Hudson Street, New York, for a limited time thereafter.

Our representative is at your call for additional information.

340 Hudson St., New York **Telephone Walker 9230**

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Dyers, Bleachers and Mercerizers of Cotton Yarns in Warps or Skeins

High Class Mercerizing in Warps Only — Fast Colors A Specialty

A new plant, latest and most modern machinery and equipment, backed by thirty-five years of specialized experience, guarantees service and satisfaction.

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Florence Thread Company

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ACCURATE COLOR MATCHING

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BRAIDS, EDGINGS, TUBING

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Advice Based on Our Experience of Thirty Years in Bleaching, Dyeing, Mercerizing, Etc., at Your Service

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PAWTUCKET, R. I.

Dyers, Bleachers and Mercerizers of Cotton Yarns, Warps or Skeins

ABSOLUTELY FAST COLORS

WEIMAR BROTHERS

Manufacturers of

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NARROW WOVEN FABRICS
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COTTON WARPS

DANA WARP MILLS Westbrook, Maine

Cotton Yarn and Warps, Carded and Combed

WHITE and COLORED **SINGLE and PLY** **SELL DIRECT**

COTTON MARKETS

Cotton Hesitates at 18c Level

Buying Tapers Off as Weather Improves in Southwest—End-July Crop Figures Interest Trade

THE buying movement which carried the price of December contracts up to 17.94 and March to 18.21 in the cotton market here toward the end of last month, subsided with the publication of the first of the private end-month crop reports. Evidently these showed no more deterioration in crop prospects than anticipated in view of unfavorable daily reports, and as the demand tapered off rather a reactionary sentiment developed. The latter was promoted by the appearance of more propitious weather conditions in the Southwest, and realizing became more active after the publication of the weekly report of the Weather Bureau on Wednesday. Otherwise, offerings were held in check by continued complaints from the eastern belt but there were declines of some 50 to 60 points from the recent high levels with the volume of business diminishing toward the end of the week, as if traders were waiting for a nearer view.

The private end-July crop reports have shown rather surprising variations, less so in estimates of the condition, than in the yield figures. The private condition figures have ranged from 65.8 up to 71.3 and figures on the indicated yield from 14,090,000 bales up to 15,550,000 bales. Evidently, there has been no uniformity in the interpretation of the condition figures as one authority placing the condition at 71.3 estimated the crop indication at 14,145,000 bales, while another which made the condition 68.8 pointed to a crop of 15,550,000 bales. This confusion is probably due to the fact that the Crop Reporting Board has published no par figures this year and the various reporting agencies are left to compile their own pars or to interpret their condition reports otherwise. In a general way, however, the private reports seemed to have prepared the market for an official condition of around 68 and a crop indication of about 14,800,000 bales.

Secretary Hester's end-season figures, placing the world's consumption of American cotton and linters for the season ended July 31 at 15,165,000 bales against 14,249,000 last year, and the world's carryover at 5,362,000 against 2,991,000 the previous year, received rather a bullish construction as the consumption exceeded expectations, with a carryover correspondingly below some of the private forecasts.

Most reports from the South have seemed to agree that damage from the hopper is now diminishing but that boll weevil are becoming more numerous. So far damage from the latter seems to have been slight, but it is in August that the most serious weevil activity usually occurs and aside from that, many bullish theories are based almost entirely on the supposed absence of bottom crop or poor fruitage.

The following table shows Wednesday's closing quotations in the leading spot markets of the country with the usual comparisons:

Market	July 28	Aug. 4	Chge	Lst Yr	Sales
Galveston	18.55	17.85	—70	24.65	7,195
New Orleans	18.73	18.10	—63	23.83	5,077
Mobile	18.35	17.85	—50	24.00	20
Savannah	18.63	17.87	—76	24.00	33
Norfolk	18.63	18.00	—63	24.13	1,447
New York	19.35	18.70	—65	24.50	...
Augusta	18.88	18.25	—63	24.00	856
Memphis	18.25	18.00	—25	24.25	8,060
St. Louis	18.00	18.25	+25	24.75	...
Houston	18.50	17.75	—75	24.45	20,522
Dallas	18.50	17.80	—70	24.10	5,503

The following differences on and off middlings are given as compiled from the reports received by the New York Cotton Exchange. The cotton grades marked ** are not delivered on contract.

	Dallas	Memphis	Montgomery	Augusta	Average
WHITE GRADES					
M. F	1.25†	1.25†	1.05†	.83†	1.05†
S. G. M	1.00†	1.00†	.90†	.68†	.83†
G. M	.75†	.75†	.75†	.53†	.62†
S. M	.50†	.50†	.50†	.38†	.44†
S. L. M	1.25*	1.50*	1.25*	1.25*	1.28*
L. M	3.25*	3.50*	3.50*	3.00*	3.38*
S. G. O.**	5.25*	6.00*	5.50*	4.50*	5.43*
G. O	6.50*	7.50*	7.00*	6.00*	6.98*
YELLOW TINGED					
G. M	.75*	1.00*	.50*	.50*	.75*
S. M	1.00*	1.50*	1.00*	1.00*	1.22*
M.**	2.50*	3.00*	2.50*	3.50*	2.75*
S. L. M.**	4.00*	4.50*	4.00*	4.00*	4.53*
L. M.**	6.00*	6.50*	5.50*	5.50*	6.20*
YELLOW STAINED					
G. M	2.25*	3.00*	2.00*	3.00*	2.31*
S. M.**	2.75*	3.50*	2.50*	3.50*	2.88*
M.**	4.00*	4.00*	3.25*	3.25*	3.70*
BLUE STAINED					
G. M.*	2.50*	3.00*	2.00*	2.00*	2.28*
S. M.**	3.00*	3.50*	2.75*	2.75*	3.06*
**	4.00*	4.00*	3.75*	3.75*	4.05*

*Off middling. †Middling.

Cotton Statistical Data

(Fluctuations of Futures, N. Y.)

	Closed July 29	For Week High	For Week Low	Closed Aug. 4	Change
August	18.17	18.45	18.15	18.45	+.28
September	17.95	17.88	17.71	17.35	—.60
October	17.87	18.00	17.26	17.26	—.61
November	17.86	17.86	17.23	17.23	—.63
December	17.85	17.94	17.20	17.20	—.65
January	17.93	18.03	17.24	17.24	—.69
February	18.03	18.03	17.33	17.33	—.70
March	18.14	18.21	17.42	17.42	—.72
April	18.19	18.19	17.49	17.49	—.70
May	18.24	18.36	17.54	17.57	—.67
June	.....	18.00	17.46	17.46	.....
July	.....	17.98	17.35	17.35	.....

Spot Fluctuations for Week

(Middling)

	New York	N. Orleans	Liverpool
Friday, July 30	19.15c	18.57c	10.02d
Saturday, July 31	19.05c	18.63c	Holiday
Monday, Aug. 2	19.20c	18.67c	Holiday
Tuesday, Aug. 3	19.15c	18.59c	10.04d
Wednesday, Aug. 4	18.70c	18.10c	10.02d
Thursday, Aug 5	18.75c	18.18c	9.80d

Spot Fluctuations and Stocks

	Prices Aug. 4	Stocks This week	Last year
Galveston	17.85	155,136	55,210
New Orleans	18.10	153,278	42,229
Mobile	17.85	4,298	1,265
Savannah	17.87	26,797	7,933
Charleston	18.00	13,178	7,765
Wilmington	.....	6,991	7,403
Norfolk	18.00	39,958	19,688
Baltimore	18.60	500	500
Augusta	18.25	33,075	9,525
Memphis	18.00	150,351	8,702
St. Louis	18.25	12,709	2,590
Houston	17.75	213,666	69,525
Little Rock	17.75	32,192	1,483

Standardized Knitting

A strange term—this—to many knitters. Yet after all it *is* possible to obtain a knit product unvarying in excellence. A host of knitters—users of Quissett Yarns—know the perpetual heights. They obtain that elusive touch known as quality not now and then but constantly.

Simply because Quissett Quality knows no such thing as variation. A certain count—a certain twist—a certain quality—is held steadfast down through the years.

Carded and Combed Cotton Yarns in all Numbers and Descriptions.
Ply Yarns our Specialty.
Egyptians, Sea Island, Peelers, Sakellarides, Pimas and Peruvians.

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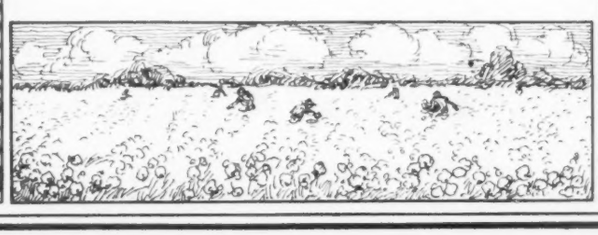

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Long wear and satisfaction assured.

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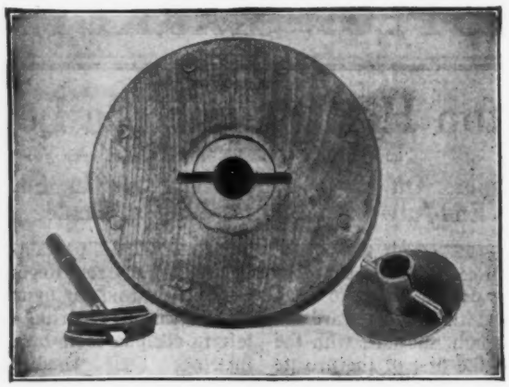

A Practical Jack Spool

The Head Cannot Turn or Fly Off

Notice the construction of the washer. The feather fits tightly into a slot in the head and barrel preventing the head from turning or coming loose.

There are no threads on tennon to strip; if the head breaks leaves good end for new heads. The head is three ply hardwood—guarantees strength and freedom from warping, splitting and breakage.

Long tapered stud fitted to tapered hole prevents gudgeon from wearing hole and becoming loose.

Extra long oblong nut cannot be drawn into wood or become loose.

Spring lock keeps gudgeon tight.

Write today for trial proposition.

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Burlington, Vermont

ACCURACY

The purpose of yarn scales is to determine accurately the weights of yarns. You can find no scales which will do their work more accurately than Brown & Sharpe Roving or Yarn Scales No. 980. These scales will weigh one pound by tenths of grains or one seventy-thousandth parts of one pound avoirdupois. Perhaps you have need for such accuracy in your Sample Room. It will pay you to investigate.

Send for "Tables and Directions for use with Yarn Reels and Scales," a useful booklet for the Sample Room. Write for a copy today.

BROWN & SHARPE MFG. CO.
Providence, R. I., U. S. A.
YARN AND ROVING REELS AND SCALES

Four reasons why you should

Standardize on Shambow Shuttles

1. SUPERIOR QUALITY
2. PROMPT DELIVERY
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After you have given Shambow Shuttles a thorough test you will never change to another make of shuttle.

You can make the test at our expense—ask us how!

SHAMBOW SHUTTLE CO., *Woonsocket, R. I.*

Warehouses and Salesrooms at
GREENVILLE, S. C.; PATERSON, N. J.

Cotton Markets—Continued

Record Year at Memphis

Season Closes with Low Grades in Better Demand and Top Prices

MEMPHIS, TENN., Aug. 2.—The statistical year, ended Saturday showed gross receipts only 370 short of the 2,000,000-bale mark, a new high record for this cotton market; the previous year gross receipts totaled 1,303,301 bales. The increase is due largely to the heavy crop in Memphis territory, although stocks at interior towns are still heavy. Considering that net receipts exceeded the previous season's by more than 300,000 bales, a carry-over of approximately 55,000 bales of unsold cotton does not seem excessive, although the comparison is with 2,300 bales last year. Owing to ruinous rains in the fall, this market, insofar as cotton out of local territory was concerned, has had to confine its attention since early in October to the low grades, which for several months nobody, except investment buyers, seemed to want; basis was forgotten in the trading and much cotton of excellent spinning value, sold at 8 to 9c. Selling was panicky. Recently cotton that was no better was bringing 11c, and above. The season closes with low grades in active demand and bringing best prices of the season.

Prices are firm but the failure of the low grades to follow the advance in futures induced many owners of hedged low grades to get rid of their cotton or to remove their hedges. Freer offerings of hedged cotton is being more than met by increased demand, a portion of which came from shorts who had deferred purchases in the belief that prices would be lower. An authority estimates the carry-over of staples in this territory at 200,000 bales, mostly low grade, on account of color. Opinion as to the crop is still far from definite, but is gradually coming to the view that it is now mostly a question of the boll weevil, which is here, but so far has done comparatively little damage. Best farmers are already poisoning as a precautionary measure, because of weather favorable for weevils, although infestation is light. The next two weeks should furnish rather definite indications of what may be expected of weevils. The plant is now fruiting as well as could reasonably be expected, but, owing to lateness, little of the fruit is safe from weevil destructiveness.

Market Statistics
Basis Middling

	Saturday, July 31	Saturday, July 24
10 markets average	18.33	18.40
Memphis	18.25	18.00

Premium Staples

First Sales from Factors Tables at Memphis

Grade Strict Middling	Prices Nominal
1 1/16-in.	22 @22¾c
1 3/16-in.	23¼@24c
1 ¼-in.	27 @29c

Current Sales

	For week	Prev. week	Week before
Memphis total	13,300	8,150	13,900
F. o. b. inc. in total	2,900	4,900	6,750
10 markets	28,427	31,151	35,890

Memphis Receipts, Shipments, Etc.

	For week	Last year	Year before
Net receipts	1,504	311	308
Gross receipts	15,566	2,137	1,947
Total since Aug. 1, net	754,555	436,108	284,975
Shipments	124,643	4,267	3,902
Total since Aug. 1	1,996,975	1,303,301	926,316
Total stock	156,304	9,524	31,097
Decrease for week	9,077	2,140	1,955
Unsold stock in hands of Memphis factors	56,000	2,300	.....

Staples Sell Better

Spot Demand Improves with Some Interest in New Crop

BOSTON, Aug. 4.—As a result of moderate improvement in demand for cloths and yarns there has been an increase in hand-to-mouth buying of premium and extra staple cotton particularly in middling and lower grades up to and including 1 3/16 in. cotton. Longer staples as well as Pimas and Egyptians have been slow. Although a little more interest has been displayed in new crop cotton this has developed into nothing tangible except in a few instances where an attractive basis was made. A moderate improvement in demand, combined with the steadiness of the futures market, have encouraged shippers to raise asking prices of basis, and, although these are up 25 to 50 points on the average, there is no change in our quotations except in the case of full 1⅛ in. Delta cotton which is advanced ½c. It is stated that no large lots are available at the minimum prices quoted, but as demand is only for small lots of a filling-in character no general advance in quotations is warranted. Flat prices of new crop cotton for October-November shipment based on the December option are practically the same as minimum prices for prompt shipment; the only exception is on staples longer than 1 3/16 in. which are about 100 points below quoted prices for prompt shipment.

The Egyptian market shows little notable change for the week excepting for a moderate advance in Sak. and a slight decline in Uppers. The firmer position of Sak. is based in part upon rumor that the Egyptian government will publish a report next week to the effect that the Sak. crop will not be as big as expected.

Current Quotations

Average prices for Aug.-Sept. shipments of middling and strict middling hard western cotton (Government lengths) are as follows:

	Middling	St. Middling
1 1/16 in.	21½to22½c.	22½to23c.
1 1/16 in. to 1⅛ in.	22½to23½c.	23½to24c.
1 ¼ in.	23½to24½c.	24½to25½c.
1 3/16 in.	25½to26½c.	26½to27½c.
1 ¼ in.	30 to31c.	31 to34c.

Basis on N. Y. Dec. 17, 20c.

John Malloch & Co., Boston, quote Egyptian cotton, c. i. f. Boston for Aug.-Sept. shipment as follows: Medium Sakellarides 30c, up ½c, Medium Uppers, 23½c, off ⅛c, from July 28. They report closing prices Aug. 4 on the Alexandria exchange as follows: Aug. Uppers, $20.68, off 31c; Oct. Uppers $20.98 off 14c; Nov. Sak. $29.58, up 26c, from July 28.

Quality Spinning and Mercerizing

Best mercerizing results are obtained on combed yarns spun from carefully selected cotton, under efficient supervision, in modern mills.

STANDARD MERCERIZED YARNS reflect these characteristics.

STANDARD - COOSA - THATCHER CO.
Chattanooga, Tenn.
Sales Office Lafayette Bldg., Philadelphia
Canadian Representative
Wm. B. Stewart & Sons, Ltd., Toronto, Montreal

Standard
Mercerized Yarn

DIXIE
MERCERIZED—AIR DRIED
YARNS

Dixie Mercerizing Co.
SPINNERS and PROCESSORS
General Office
CHATTANOOGA, TENN.

PHILADELPHIA, PA. Cameron & Pfingst, 308 Chestnut St.
BOSTON, MASS. Allan B. Greenough 45 Milk St.
UTICA, N. Y. Dalglish & Co., Utica City Nat'l Bk. Bldg.
LOS ANGELES, CALIF. J. V. Calhoun, P. O. Box 1566, Sta. C.
J. CARMICHAEL & CO. Leicester, England
Sole Representatives for Great Britain

DIXIE MERCERIZING CO. DIXIE STRENGTH QUALITY LUSTRE CHATTANOOGA, TENN. REG. U.S. PAT. OFF.

READING, PA. Cameron & Pfingst, Amer. Cas. Bldg.
CHICAGO, ILL. Fred W. Frank, 166 West Jackson Blvd.
CHARLOTTE, N. C. Acme Sales Co., 906 Johnston Bldg.
TORONTO, CANADA Slater & Co., 53 Yonge St.
LOS FABRICANTES UNIDOS, INC. 150 Nassau St., New York, N. Y.
Sole Representatives for Argentina and Uruguay

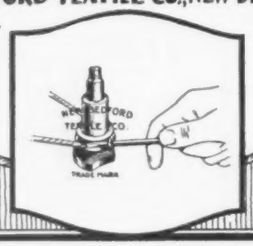
Banding men—

Banding men we call them — they who turn out New Bedford Textile Company's Banding. Men who take pride in their product — banding that does them proud!

New Bedford Textile Company's Banding is the kind that is a little more in price — but service *scores* and after all that's what counts. Something to be remembered on your next banding requisition.

NEW BEDFORD TEXTILE CO., NEW BEDFORD, MASS

RIM & SCROLL BANDING AMERICAN & EGYPTIAN, BRAIDED SPINDLE BANDING



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Jamestown, N. Y.

Manufacturers of WORSTED YARNS

(Bradford System)

FOR WEAVING AND KNITTING

White, Colors, Oxfords, Heather and Fancy Mixes

PASSAIC WORSTED SPINNING CO.

PASSAIC, N. J.

MANUFACTURERS OF

TOPS AND WORSTED YARNS

(ENGLISH SYSTEM)

Sales Representatives

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215 SUMMER ST. BOSTON	120 CHESTNUT ST. PHILADELPHIA	308 CHESTNUT ST. PHILADELPHIA

New York Agency: Metropolitan Bldg.

GRUNDY & CO., INC.

108 S. Front Street, Phila.

Tops and Worsted Yarns

FOR

Men's Wear, Dress Goods and Knitting
Trade both in Grey and Mixtures

Incorporated 1904

FALLS YARN MILLS

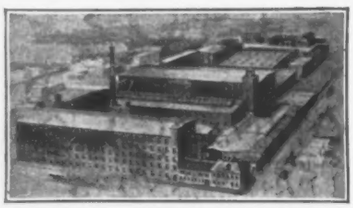
WOONSOCKET R. I.

FINE WOOLEN AND MERINO YARNS

Sole Representative: H. R. SHIRLEY, 242 Chestnut St., Phila., Pa.

THOS. WOLSTENHOLME SONS & CO., Inc.

Frankford Ave. & Westmoreland St. Philadelphia, Pa. P. O. Station "E"



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YARNS

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French and English Spun Worsted
French Spun Worsted Merino

O. J. CARON

WORSTED AND WORSTED MERINO YARNS

166 W. JACKSON BLVD., CHICAGO

Cranston Worsted Mills, Bristol, R. I.

WORSTED, MOHAIR AND NOVELTY YARNS

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381 Fourth Ave. New York
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Thrown Silk Yarns

For Silk, Woolen Worsted
Cotton and Knitting Mills

Star Worsted Company

YARNS

FITCHBURG MASS.

FRENCH SPUN MERINO

MOHAIR WORSTED WOOLEN

FRENCH AND BRADFORD

YARNS

OF EVERY DESCRIPTION

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BOSTON PHILADELPHIA CHICAGO

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Spinners of

FINE WOOLEN AND MERINO Weaving Yarns

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Rockwell Woolen Co.

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Manufacturers of

WOOLEN and MERINO YARNS

FOR WEAVING and KNITTING

Heather a Specialty Mixtures and Decoration Yarns

WORSTED YARN MARKETS

Tops Fairly Firm

Industry Unsteady Owing to Cuts in Combing Charges

BOSTON.—The top market is without any important change but prices on ¼ blood tops are less strong and low ⅜s blood, 52-56s are down to $1.00 per pound. During the week small additional business has appeared in fine tops also high ⅜s and low ⅜s bloods all for men's wear fabrics. The general top situation is still unsteady but larger business at some price is expected in the early fall. Prior to the opening fairly good business was placed sufficient in the main to keep some establishments running full until the end of this month. The long continued depression in the top market has led to quite a little price cutting in combing charges and recently, it is said, some considerable business has been offered on fine tops at 10¢ per pound. This is not credited in some sections of the market and yet there seems little doubt that ½ blood tops have been combed in the Philadelphia district for 10¢ per pound and ⅜s blood as low as 8¢ per pound. It may be said on good authority that one large eastern combing establishment is likely to close down indefinitely at the end of the month owing to disturbed conditions and unprofitable business.

Wool combing is slowing up and by the same sign the output of noils is likely to decline around the first of September unless considerable business is placed for worsted fabrics in the New York goods market. Domestic production of noils at this time is chiefly of the finer grade and this perhaps explains the interest of American importers in medium noils in the Bradford market. Prices for fine are irregular. One house quotes 85-87c; another house 85c; still another house 83c, while for a noil not first class in any respect as low as 78c is named. The movement in specialty noils is still unsatisfactory.

Top and Noil Quotations

Tops—Boston	
Fine (64–66s)	$1.38–$1.40
Super 64s Aus.	1.54– 1.55
Half-blood (60–62s)	1.28– 1.30
High ⅜ blood (58s)	1.13– 1.15
Aver. ⅜ blood (56s)	1.07– 1.09
Low ⅜ blood (52–56s)	1.00– 1.02
High ¼ blood (50s)	.97– .98
46s	.89– .90
44s	.84– .85
40s	.77– .78
36s	.80– .81
Tops—Bradford	
Fine (70s)	54 d
Fine (64s)	49 d
Half-blood (60s)	45 d
Three-eighths blood (56s)	31 d
Quarter blood (50s)	24½d
Cross-bred (46s)	20½d
Noils—Boston	
Fine	$.78– $.82
Half-blood	.73– .75
High ⅜ blood	.65– .70
Aver. ⅜ blood	.60– .65
Low ⅜ blood	.55– .60
High ¼ blood	.53– .55
46s	.50– .51
44s	.48– .50
40s	.47– .49

Wool Cooperative Effort Details

Worsted Spinners Stress Publicity, Ethics and Scrapping of Machinery

PHILADELPHIA, PA.

AS a result of the prolonged period of dull and unprofitable business the worsted spinning trade has undergone, a good many spinners have come to the conclusion it is unwise for them to continue to await the return of large orders they formerly received, at prices which will allow them the margin of profit they enjoyed in years past. This thought is especially pertinent when it is realized other industries, which have had just as important problems to overcome, are operating actively, many of them more so than at any time in our history and on a profitable basis.

In other words, spinners and manufacturers are now asking themselves why it is they have been compelled to sit and watch several cycles of general business prosperity and depression come and go without experiencing any decided change in their own business. Realizing that a change in the spinning and weaving trade must be made within a reasonable time in order to prevent a large number of concerns from being forced out of business, the worsted and woolen trade has asked the question, "is it possible for us to take steps to stimulate the public into buying and consuming larger amounts of woolen and worsted goods."

Is Style Change Permanent?

Or in other words, has a change in style and clothing taken place which means a permanent reduction in the amount of worsted yarns and goods consumed by a constantly increasing population, and not be enough business placed with mills to keep them all profitably engaged?

While several in the trade are in favor of permitting economic laws and time to take care of the situation others believe in taking some action immediately with a view of accelerating the return of better business conditions. Opponents of the plan believe this will be impossible after a test, asserting that artificial stimulus such as an advertising campaign can never change an economic trend which they feel is at the bottom of the situation.

As an example, the latter group points to the condition of the worsted dress goods trade during the last few years. Demand with concerns in this section of the business has changed from the staple type of goods formerly manufactured in bulk, to lighter-weight fabrics of brilliant coloring and design made from materials other than wool. They assert this change in habit or style is permanent and the worsted business formerly secured from dress goods buyers is irretrievably lost.

Some Mills Wide Awake

That this condition does exist at present is not denied by prominent manufacturers of worsted dress goods, but they have failed to become discouraged by the condition in dress goods of this type. Several have followed an alert and up-to-date manufacturing policy during the last few years when a majority have complained of the lack of any business of account. These merchants have sold attractively styled novelty lines of worsted materials under trade marked names direct to the consumer, with advertising campaigns conducted in leading style magazines of the country. These concerns state their business has been larger than many trade reports upon the general dress goods situation indicated.

For this reason they firmly believe a type of worsted dress goods fabric can be developed which will meet present style requirements as to color, variety and weight and at the same time compete with other lines of fabrics made from materials other than wool. Such a fabric's light weight would offer the wearer advantages as to health safeguards that woolen and worsted manufacturers state no other fabric can present. Similar arguments will no doubt be stressed in the publicity campaign to be undertaken by the wool manufacturers of America.

General Cooperation Possible

This leads up to the plan already favorably voted upon by what members of the committee appointed by five important wool, worsted and woolen associations, estimate to be 75% of the industry. The fact has not already been stressed and according to many in the industry it is the most important phase of the entire situation, that the wool manufacturing industry in the United States for the first time in its history has found it possible to cooperate in this instance on the subject of publicity. This, according to many, will reach further than the publicity campaign, although the importance of that should not be lost sight of, but to many it is the beginning of cooperation along other lines just as important, which in the future may have more far-reaching effect.

Publicity work has been taken in hand by an efficient committee which has issued four booklets giving certain facts on the present situation following which meetings were held in Boston on July 7, Philadelphia on July 8 and in New York on July 13. As a result of the facts presented at these meetings the committee is preparing its report to be submitted to each of the five associations which to date have signified their willingness to participate in such a movement and recommending that each organization at once select two representatives constituting the nucleus for the Wool Council of America. The manner in which the meetings were conducted in all three cities has been the subject of favorable comment throughout the industry and the high standard set can well be emulated by their successors in the work. Allen R. Mitchell, Jr., chairman of the Publicity Committee, and the entire committee, are to be congratulated upon the service already rendered.

Ethical Problems

The question has now been asked, among others by Chas. J. Webb, large wool dealer, spinner, manufacturer and distributor, why should not the industry consider further what seem to many to be just as important questions for the industry as a whole. To

WORSTED YARN QUOTATIONS

(Corrected to Close of Business Wednesday)

Bradford System	
2-12s, low com. (36s)	1.05–1.10
2-16s, low com. (36–40s)	1.10–1.15
2-20s to 2-24s, low ¼ (44s)	1.15–1.20
2-20s to 2-26s, ¼ bld. (46–48s)	1.25–1.30
2-26s to 2-30s, ¼ bld. (48s)	1.30–1.35
2-30s to 2-32s, ¼ bld. S. A. (46s)	1.35–1.40
2-32s, ¼ bld. (48–50s)	1.40–1.45
2-20s, ⅜ bld. (56s)	1.45–1.50
2-26s, ⅜ bld. (56s)	1.50–1.55
2-36s, ⅜ bld. (56s)	1.55–1.60
2-32s, ½ bld. (60s)	1.70–1.75
2-36s, ½ bld. (60s)	1.75–1.80
2-40s, ½ bld. (60–64s)	1.80–1.85
2-50s, high ½ bld. (64s)	2.00–2.05
2-50s, fine, (66–70s)	2.05–2.10
2-60s, fine (70s)	2.65–2.75

French System	
20s, ¼ bld. (48s)	1.40–1.45
20s, high ¼ bld. (50s)	1.50–1.55
20s, ⅜ bld. (56s)	1.55–1.60
30s, ⅜ bld. (56s)	1.65–1.70
30s, ½ bld. (60s)	1.80–1.85
40s, ½ bld. (60–64s)	1.90–1.95
50s, (66–70s)	2.15–2.20
60s, (70s)	2.65–2.70
Knitting Yarns in Oil (Bradford)	
2-20s, low ¼ bld. (44s)	1.15–1.20
2-18s to 2-20s ¼ bld. (50s)	1.25–1.30
2-26s, ¼ bld. (50s)	1.30–1.35
2-30s, ¼ bld. (50s)	1.35–1.40
2-20s, ⅜ bld. (56s)	1.50–1.55
2-20s, ¼ bld. (60s)	1.75–1.80
French Spun Merino White	
30s, 50-50	1.50–1.55
30s, 60-40	1.60–1.65
30s, 70-30	1.70–1.75
30s, 80-20	1.80–1.85

A PIECE of Cloth is only as perfect as the material used in its construction.

Resist
Extra Fast
and
Regular
Dye
Colors

When using our Spun Silks you get correct colors—correct materials —no troubles.

American Silk Spinning Co.
Providence, R.I.
New York Office – 1 Madison Ave.

"Always Dependable - All Ways"

Worsted Yarn Markets—Continued

speak more frankly, a number feel ethics of the industry should be first studied before publicity of any character is presented to non-members of the industry.

The three primary problems being considered by the industry are publicity, ethics and the scrapping of old machinery. The subject of ethics did not come within the scope of the work for which the Publicity Committee was appointed, according to a statement made by the chairman, or by the Wool Council of America, yet in the formative stage, and was not studied as minutely as the publicity feature of cooperative effort.

Yet it is regarded as a subject of the first importance that will, now that cooperation has been seen to be possible along other lines, assume greater importance, especially in view of the belief that cooperative effort by a large percentage of the industry is possible. If the Wool Publicity Committee does nothing further the trade is unanimous in giving them full credit for proving this.

Wool Council of America

There is little doubt the question brought up in meetings held by the Publicity Committee under the term ethics will receive serious consideration by the Wool Council of America, leading to cooperative effort to minimize abuses in the industry coming under this head.

As evidence of the spirit of cooperation already developed by the publicity work those mentioning this problem have recently signified their willingness to withdraw request for consideration of this question, being content in a true spirit of cooperation to leave the handling of such problems for consideration by such a body as it is expected the Wool Council of America will develop into.

Scrapping of old machinery is another problem which can only be considered by cooperative effort by a large portion of the industry and should be done, according to leaders in the trade, only after careful research has been made. Recommendations of this character have been discussed by individuals previously but no general discussion of it has taken place until recently in this country. The practice is more widely known in several European countries, where the results attained in several cases have been such as to cause favorable comment by American manufacturers, leading them to believe such results could be duplicated here.

Scrapping Machinery

Recommendation has been made to the effect that a tax on those concerns in the industry willing to cooperate, should be collected along similar lines as recommended by the Publicity Committee for raising funds for the advertising campaign. This fund would then be used to purchase old machinery when offered for sale, which would then be destroyed.

Others would go further and advise that after research has been made, determining the approximate amount of excess machinery in the country, such excess should be purchased from manufacturers and spinners on the basis of their present productive capacity, until the productive capacity of both spindles and looms is brought down to what research had considered a fair basis in comparison with consumption here and abroad.

These questions are regarded as secondary by leaders in the publicity movement, however, who feel assured that these problems could be more efficiently handled by a body appointed by the entire industry for the purpose of considering cooperative measures, such as for example, as the Wool Council of America, to whom individual concerns could then intrust consideration and look for recommendations.

Yarns Struggling Along

Either Price or Quality Yields to Pressure

BOSTON. — The general situation in worsted yarns is still far from satisfactory. Consumers are shopping around for low-priced yarns, not because they have cloth orders but because if they can get yarns at a price they may be able to get cloth orders. In such cases there is a tendency noticeable to let up on the wool quality and to take 40s, for example, from 58s or even lower if procurable. Business being done by most of the independents is close to cost if not below and yet it is likly that certain spinners have been able to acquire tops well below the market by reason of the keen competition among combers for business which has led to some cutting of combing charges. The situation is far from encouraging and yet it would seem that in the long run the concerns which maintain quality and fight for price would be the most likely to survive.

In the Bradford market the prolongation of the coal strike is effecting curtailment but yarn production is fully adequate to demand. The fine yarns are firm; the crossbreds are neglected. Wool has been sold at the London sales at prices which, so it is said, cannot show any possible margin of profit for topmakers and spinners who continue to sell below replacement cost.

BRADFORD YARN PRICES

	s	d
2-16s, 36s	2	1
2-24s, 44s	2	3
2-36s, 58s	4	3
2-48s, 64s	5	6
2-60s, 70s	6	8

LAGRANGE, GA. The administration building located in Southwest LaGrange that houses the offices of the Callaway chain of mills has recently been remodeled. It was formerly the Martha Washington Inn, a hotel for mill employes. With the completion of the remodeling the general offices of the Callaway Mills, the accounting department of the Unity Cotton Mills, Unity Spinning Mill and Hillside Cotton Mills have all been moved to the remodeled building.

Pocasset Worsted Company, Inc.

Worsted Yarns

Office and Mills — Thornton, R. I.

MERION WORSTED MILLS

Sell Direct

Fine French-Spun Worsted and Worsted Merino Yarns

WHITE NATURAL AND FANCY MIXES IN SINGLE AND PLY FOR KNITTING AND WEAVING

Mill and Office WEST CONSHOHOCKEN, PA.

HORNER BROTHERS WOOLEN MILLS

Manufacturers of

Woolen YARNS

For Knitters and Weavers

Almost a Century of Continuous Operation
Stands for High Quality and Prompt Service

EATON RAPIDS — MICHIGAN

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Mohair and Worsted

LOOP and NOVELTY YARNS

Massachusetts Mohair Plush Co.

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WORSTED AND MERINO FRENCH SPUN YARNS FOR KNITTING AND WEAVING

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Fast and Direct Color in Single and Ply Silk for the following trades:

WOOLENS AND WORSTEDS
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Special colors dyed to order for quick delivery. Color card on application.

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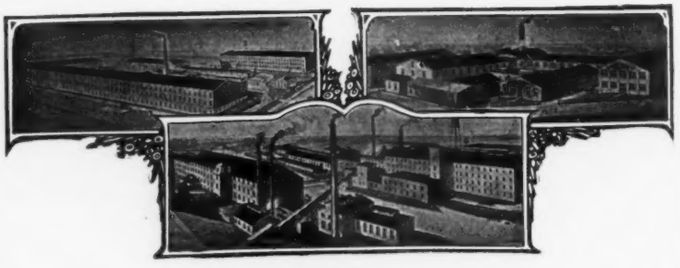
James P. Elder
308 Chestnut St., Philadelphia, Pa.

Thos. M. Longcope, Jr.
Chicago, Ill.

E. B. Hague
Utica, N. Y.

The Kent Manufacturing Co.

(Established 1843)



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Rockbourne Mills
Runnymede Mills
Clifton Heights, Pa.

THE KENT MFG. CO.
Rockbourne

Burmont Mills
Burmont, Pa.

Bedford Mills
Bedford City, Va.

Manufacturers of

Woolen Goods

Flannels—Suitings—Overcoatings—Tweeds, Etc.

Fine Worsted Yarns

(FRENCH SPUN)

For WEAVING and KNITTING

RAYON AND SILK YARN MARKETS

Month Following Rayon Cut Proves Encouraging

Sales for July Exceed Expectations of Many Domestic Producers—Largest Company Says Business Is on Par With July, Last Year—Cotton Mills Resume Buying—More Unfounded Rumors of Another Reduction —Imports for Fiscal Year

NOW that a month has passed since the reductions in rayon prices became effective, it is possible to express a fairly definite opinion regarding the extent to which the market has recovered from the unsettled conditions which preceded that action. Briefly, it may be stated that the recovery has come up to the expectations of most domestic producers and exceeded those of others.

In qualification, it might be remarked that a boom following the cut on July 1 could not logically be anticipated. In the first place, it was fairly well realized in the consuming trades that there was no scarcity of stocks of most grades and that requirements could be filled at fairly short notice; consequently there was no impetus for immediate anticipation of future needs. In the second place, it must be admitted that a certain amount of injudicious use of rayon by mills not technically equipped to handle it, had produced a temporary reaction against the fiber in some quarters. Finally, the reduction was made just preceding a season of the year which is normally a quiet one and not conducive to boom conditions.

More Price-Cut Rumors

In view of these facts, the volume of business which domestic manufacturers report for the last month is decidedly encouraging. For example, it was stated at the offices of The Viscose Co. this week that the sales for the month just closed had exceeded the expectations of the management of the company and had in fact been on a par with those of the corresponding period last year. Such a development was not anticipated as it was felt that the lack of confidence engendered in the market by the pre-reduction gossip would carry over for a while, even after prices had been cut, and it was felt that the total for the first month would show a decline from July last year.

Keeping Up With Production

It was further remarked that every indication at present points to a steady resumption of business and that there is no reason to believe that the quantity set as the probable production for 1926 would not be realized when the 12 months' period comes to an end. At the present time, it was stated, the plants of the company are in full production and sales are keeping up with that capacity. Naturally there must be further broadening in the next months if the full year's schedule is to be maintained because the slump in May and June is still to be counteracted.

Similar reports were received in other sections of the producing market and it was generally agreed that the sum total of orders placed, although many are small individually, represents a healthy and normal recovery of the fiber. It need hardly be stated that contract business is not anywhere near the basis in effect six months or a year ago, when the main consideration of a consumer was assuring himself of a steady supply. For the time being, such assurance is his without large forward commitments. This does not mean that there is no contract buying because several good-sized future orders have been reported but on the whole the trading is more closely confined to covering for nearby needs.

A peculiar angle of the situation is that the chronic rayon "bears" have been active already in spreading rumors of another impending price cut. This disconcerted a portion of the consuming trade but a little consideration of past performances brought home the fact that such rumors had been current almost constantly between Feb. 1, 1924, and July 1, 1926—and that in all that time there was no reduction in list prices on domestic rayon. Consequently the trade has about made up its mind not to get excited over such reports at this stage of the game. The only change that has been made since July 1 has been the reduction in fine sizes by two of the companies who thus brought their quotations nearer to a competitive basis with those named July 1 by the Tubize Artificial Silk Co. of America. Nor is it felt that there is any justification at this time for belief in a price cut for some while.

Cotton Mills Buying

Finally, it might be remarked that one of the most encouraging features of the situation is the resumption of buying on the part of cotton mills. Market gossip had it a month or two ago that rayon's position as a decorator of cotton goods was doomed. This was predicated on the experience of certain mills who should never have attempted to place such goods on the market—and of certain consumers who were the unfortunate recipients of those fabrics. It does not require a great deal of calm thought to realize that one of the outstanding functions of rayon is to lend life and beauty, at reasonable expense, to cotton materials—and that a temporary black eye from faulty merchandise is not going to result in the patient's death.

Fiscal Year Imports

No discussion of the rayon situation of this time is complete without reference to the gain in imports for the fiscal year ending June 30, 1926, as compared with fiscal years 1925 and 1924. The following table shows the total imports of rayon yarn, waste and threads for those three years:

Fiscal Year	*Rayon Imports*	
1926.....	14,264,349 Lbs.	$11,940,746
1925.....	9,667,825 "	5,721,642
1924.....	6,120,268 "	5,422,279

DOMESTIC RAYON PRICES

Denier	"A"	"B"	"C"
55....	$2.55	$2.40	$2.25
65....	2.45	2.30	2.15
75....	2.35–2.50	2.20–2.35	2.05–2.20
80*...	2.50	.....	.....
85....	2.25	2.10	1.95
95....	2.05	1.90	1.75
100....	2.00–2.15	1.85–2.00	1.70–1.95
100*...	2.35	.....	.....
110....	1.95	1.80	1.65
120....	1.90	1.75	1.60
125....	2.00	1.85	1.70
130....	1.85	1.70	1.55
140....	1.75	1.60	1.45
150....	1.65	1.50	1.35
150*...	1.80	.....	.....
170....	1.55	.....	.....
170*...	1.75	.....	.....
175....	1.60	1.45	1.30
200....	1.55–1.60	1.45	1.30
200*...	1.70	.....	.....
250....	1.50	1.40	1.25
300....	1.50	1.40	1.25
450....	1.35–1.45	1.35	1.20
600....	1.45	1.35	1.20
900....	1.35	.....	....

* Super extra.

CELANESE	
45	$4 25
75	3 75
100	3 65
120	3 50
150	2 90
170	2 85
200	2 75
250	2 70
300	2 70

Rayon Trade Notes Further Improvement

Better Contracting for Futures—Other Companies Reduce Fine Sizes

A majority of sellers both of domestic and of imported rayon stated that they had experienced an additional improvement in demand last week. Cotton mills were understood to be buying larger quantities and with more confidence as far as placing advance orders was concerned. With regard to the importers it was stated that some favorable bookings could be placed if the selling house were willing to go as far as the customer desired in the way of price. This business still remains unplaced, by the way, indicating a firmer attitude on the part of the European firms.

Excellent deliveries and superlative service is helping to confirm the rayon buyer in his policy of month-to-month contracts. The larger producers have evidently accumulated some stock and until this is worked off they will probably be a jump ahead of demand. As long as the buyer knows that his deliveries are not going to be interrupted he would prefer to keep his commitments low. From the way things look now, however, the next change should favor the seller. In other words with price levels stabilized, a larger volume of forward bookings should be noted.

The Viscose Co. and the Du Pont both reduced their list prices on the fine sizes last week to conform nearer to the Tubize quotations. Their prices now range about 15c a pound above Tubize, but in the case of the two mentioned the price is for bleached yarn while the Tubize is unbleached.

Netherlands Rayon Exports Increase

Exports of rayon from the Netherlands during the first four months of 1926 amounted to 1,456,000 kilos, compared with 1,049,000 kilos in the corresponding period of 1925, Assistant Trade Commissioner Philip E. McKenney, The Hague, advises the Department of Commerce. This increase is chiefly due to the larger exports to the United States, which amounted to 169,000 kilos in the first four months of 1925 and to 430,000

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RAW & THROWN SILK

ARMITAGE, FAIRFIELD AND WASHTENAW AVENUES

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Dustproof and Self-Lubricating Spinning Tube

saves oil, prevents clogging with dust and lint, thereby insuring longer life to the tubes, saves labor, maintains uniform speed, *and most important of all,* makes PERFECT YARN.

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Successors to BAMFORD & SMITH CO.

STEEL CAPS, SPINDLES, TUBES AND FLYERS—Manufactured and Repaired.

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CONES COPS

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Southern Representative

Cape Fear Yarn Co., Drexel Bldg., Philadelphia

NATURAL OR DYED SINGLE END
FAST OR DIRECT COLORS PLIED

—Also

COPPING AND CONING ON COMMISSION

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Scouring AND Carbonizing of WOOL AND NOILS

The Standard of Workmanship

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RAYON (Viscose)

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Artificial Straw — Artificial Horsehair

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GARTH MFG. COMPANY

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ROACH DOOM

AT LAST A Real Moth Destroyer and Preventative

EDGAR A. MURRAY'S MOTH DOOM sprayed directly on Wool, Yarns, Finished Cloth, Rugs, etc., not only destroys all worms and larvae, but leaves a preventative against future attack.

Will not stain the finest fabric.

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Spunrayarn and Rayon-Worsted Blends

ABEECO MILL, INC., 505-5TH AVE., NEW YORK CITY

CANADIAN REPRESENTATIVES: WM. B. STEWART & SONS, LTD., TORONTO-MONTREAL

RAYON

Immediate delivery of standard sizes and twists in colors guaranteed.

FAST

Put up in proper form for WEAVING

KNITTING

Beck Rayon Co.

200 GREENE ST. NEW YORK

PROMPT SERVICE
RIGHT PRICES

BONE DRY HOSIERY FINISHING BOARDS

THAT WORK ABSOLUTELY SMOOTH

Jos. T. Pearson & Sons Co.

1825 E. Boston Ave., Philadelphia, Pa.

Rayon and Silk Yarns—Continued

during the 1926 period. Prices have decreased from an average of 6.05 guilders per kilo in 1924 to 5.70 guilders in 1925 and 4.31 in 1926. (Guilder—$.37 at average exchange during the first four months of 1924; $.40 during the corresponding period of 1925 and 1926.) Factories in the Netherlands have been able to increase their profit due to increased exports and reduced operating expenses.

Spun Silk Quiet

Singles Moving but Ply Yarns Quiet Till Outlook Is Defined

Spinners reported the market last week as quiet but very firm. Single yarns were doing fairly well. Good quantities were being delivered on contract while new business was coming in. Ply yarns, however, are very quiet. Pending determination of what the outlook for the coming spring is, manufacturers are not making any broadcloths to speak of. It follows naturally that they are placing no business in the ply yarns. Prices look to be scraping bottom and a better realization of the strength of the market should bring in buying in the next month or so. Prices are as follows:

60—2	$5.80	30—2	$5.30
50—2	5.65	20—2	5.00
40—2	5.50	60—1	4.60

Thrown Silk Advances

Lighter Crepe Yarns Again Note Buying Prices Are Higher

The greater part of the thrown silk demand continues to concentrate on the heavier constructions but at the same time thrown silk dealers commented on a growing inquiry for the lighter threads. Three thread was wanted again last week for georgettes which manufacturers are putting into work for later fall business. Two thread, however, the construction that ties up the spindles and raises throwing prices, was still neglected. Four five and six thread was in good demand. Organzine was quiet and throwsters were looking for throwing of this number at concessions.

Prices on crepes were firmer in sympathy with the advance in raw silk. The advance in thrown averaged about 10¢ a pound with some houses continuing to book cheap business. Prices are as follows:

(60 days basis)

Japan Organzine 2 thd Grand Double Extra in skeins	$7.60
Japan Tram 3 & 4 thd in skeins	6.70
Japan Tram 5 thd on cones	6.60
Japan Crepe 3 thd on bobbins 65 turns	7.35
Japan Crepe 2 thd XXA on bobbins 70 turns	7.80
Canton Crepe N S 14/16 3 thd on bobbins	6.20
Tussah Tram 2 end on cops	3.60

Raw Silk Higher

Manufacturers Buy More Confidently—Yellows at Discounts

In spite of a vast amount of pessimistic talk indulged in by buyers of raw silk, prices strengthened last week. Closing levels were about 10¢ a pound higher in the case of white silk. Yellows were in good demand but continued heavy arrivals in the Yokohama market had a depressing effect on quotations which just about held unchanged. The low offers of yellow 20/22s were lacking, but these offers were short sales and never could be taken as a real basis. Manufacturers bought more confidently and were placing orders for August, September, and October shipment.

Canton silk strengthened also. Underselling has practically disappeared around the New York market. New Style 14/16 was held at $4.75 or better which puts quotations more in line with the primary market. Cantons appear to be still cheap and many shrewd observers look for a substantial rise. Tussahs were slightly easier.

(90 days basis)

Japan Filature Grand Double Extra 13/15	$6.55
Japan Filature Crack Double Extra 13/15	6.35
Japan Filature Double Extra 13/15	6.25
Japan Filature Best X 13/15	6.15
Japan Filature X 13/15	6.10
Japan Filature Best No. 1/X 13/15	6.05
Canton Filature New Style 14/16	4.80
Canton Filature New Style 20/22	4.45
Italian Grand Extra Classical	6.20
Tsatlee Reeel "Blue Dragon & Flying Horse"	4.60
Tussah Filature 8 cocoon	3.20

HORNELL, N. Y. The Geary Silk Co.'s buildings in River street, Hornell, N. Y., may be purchased by St. Ann's Church, according to a Hornell report. Will H. Geary, head of the silk company has refused to comment on the matter.

SUMMARY OF SILK CABLES

Best No. 1/X Yokohama	1590 Yen
Exchange at 3 m/s	48¼
Cost C. I. F. New York	$6.10
Stocks Yokohama July 31	32,100 bales

Last week in Yokohama was broken by a two-day holiday on Friday and Saturday. As a result transactions were not large amounting to only slightly above 3,000 bales. Despite the small volume of buying and a further advance in exchange to 48¼ for the 3 m/s rate, prices showed marked firmness. On Monday a 20 Yen advance was paid and this quotation of 1590 Yen was maintained. Yellow silk sold at a slightly greater discount from white silk, the advance not affecting yellows which continue plentiful. Cantons were higher abroad. A 20 Mex. Dollar advance was paid and buying was more active both for American and European account.

Manufacturers of
HOSIERY TRAM

Artificial Silk on Cones

Artificial Silk twisted with Raw Silk

Artificial Silk twisted with Worsted

VAN STRAATEN AND HAVEY, Inc.

Artificial Silk twisted with Cotton

Mercerized Cotton twisted with Raw Silk

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Pennsylvania and Southern Representative:
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TUSSAH

Thrown under an entirely new principle producing an improved yarn at a lesser cost.

Production fully guaranteed as to workmanship.

Smoothed Out—

all your difficulties with comb circles and fallers. Faulty construction in these important parts of textile machines can cause an enormous amount of trouble and delay. The famous Hood Quality of workmanship and construction leaves no room for defects or imperfections.

"If it's Hood It's Good"

Try the Hood Service on ***your*** comb circles and fallers and feel sure of perfect satisfaction.

"If it's Hood It's Good"

ESTABLISHED 1885
R.H. HOOD CO.
INCORPORATED

19th & Westmoreland Sts., Philadelphia, Pa.

"Wear American-Made Fabrics"

Mr. I Kno-Wool says:

"A straight line is the shortest distance, etc." but it is seldom the line of least resistance.

Perhaps your sales resistance can be lessened by snappier, more colorful lines. Our special facilities for coloring Reworked are at your service.

Send for Samples.

THE BASCH & GREENFIELD CO.

REWORKED WOOLS

Home Office & Mills Newark, N. J. | Established 1872 | Phila. 114 Chestnut St.

FLOCKS

WOOL AND COTTON

FOR FLOCK PRINTING. RECORD, RADIO, WOOLEN AND RUBBER MFG.

Trial Samples Supplied Gratis

CLAREMONT WASTE MFG. CO, DEPT. W, CLAREMONT, N.H.

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SCOURED WOOL

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GORDON BROTHERS, INC.

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Reworked Wool, Wool Waste

Custom Carbonizing by Dry Process

General Fiber Co.

Reliable Graders of

WOOLEN RAGS

Chicago—Illinois

Graded Linseys a Specialty

M. Salter & Sons

WOOLEN RAGS
REWORKED WOOL

Custom Carbonizing and Picking

CHELSEA, MASS.

WOOL MARKETS

Narrow Substitute Market

Woolen Mills a Bit More Hopeful, but Trade Slow

No broadening movement is visible either in reworked materials or woolen rags. The general market is barely firm and may be considered rather in the buyer's favor. Blue worsted clip are firm at 41c, while the old rag is on an 8½-9c basis. The clip market in Dewsbury is firm with fair demand at prices which have remained unchanged for several weeks. Blue worsted clips are 150 shillings per cwt. or 32c to which would have to be added 7½c for duty and freight charges. The Dewsbury price of this commodity is unchanged as compared with a year ago. Black worsted clips are 140 shillings down one penny per pound from a year ago.

Woolen manufacturers are reported a little more hopeful but developments are slow and attempts to sell either recovered materials or woolen rags bring about a meager measure of success. According to one house the chief call is for fine light merinos and light hoods with the demand for skirted blue worsted less urgent. Some sample business is being done in blue and black serges. Clips on the whole are more active than rags.

There is a rumor, though unconfirmed, that one or two of the larger reworked wool plants have been re-offering some of their rag stocks. Softs are on an 8¼–8½c basis. White knit is in better demand at better price, 40–41c. Light hoods are quite salable. The percentage of rayon in this knit is somewhat of a question. Rayon carbonizes out like cotton but the percentage of shrinkage seems to have become above normal recently, it is said.

Wool wastes are moving in a slow market. The best materials are moderately firm. Traders, however, will not operate except on a basis of low values. No sizable stocks exist anywhere and the situation is such as to suggest that any sudden inrush of business from the goods market would drive in not a few woolen mills for supplies. There is no buying ahead and where business is placed for any particular waste immediate delivery is required. In the Bradford market fine white drawing lap is 78c or about $1.12 landed, duty paid, which is approximately the price of the domestic waste. Quarter-blood lap is 36c or around 70c landed, approximately the value of the domestic waste. Fine colored lap is 66c or $1.00 landed which is about 10c per pound higher than our domestic material.

LANSING, MICH. The National Felt Corp. has been formed with a capital of $100,000, to operate a local felt mill. The company is headed by Nathan Mann and Samuel Muskin, both of Lansing.

Wool Stabilization Increases

Steadiness in Australian Prices Accompanies Consumption of Clip

BOSTON, MASS.

IT is quite a common saying in wool circles, and the view has been adopted by public prints, that wools in Boston are the cheapest in the world. The statement needs some explanation. It has reference to foreign wools in bond, Australians and South Americans being held there at values below similar wools still left in the original markets or in London. This is the explanation of the re-exports that have been taking place, wools tending to move to the highest market. To domestic wools a different standard has to be applied. Leaving out considerations of the tariff and placing the wools on a gold standard basis they are considerably higher-priced than similar foreign wools; thus a fine staple territory wool in Boston would cost at this time $1.15, whereas the value of a similar wool in bond or in London would be approximately $1.00 per pound. If the foreign wool is taken out of bond 31c would have to be added to the price.

Boston has received a very much larger amount both of foreign and domestic wools this year to date when compared with similar period last year, 40% more foreign, 30% more domestic. It would seem as though stocks both of domestic and foreign wools were quite adequate to any mill demand and in sufficient bulk to prevent any lifting of prices on the part of holders. The market as a whole is steadier than it has been for a long period and this is the feature of the situation which meets with the approval both of merchants and manufacturers.

One of the big troubles with the wool textile industry for the last two or three years has been the excessive fluctuations in the cost of raw materials. It has happened in not a few cases that all the skill, technical knowledge and selling ability have been insufficient to overcome the handicap of wide if not wild movements in high-priced raw materials.

That the world wool situation has now reached a large measure of stabilization, considered almost impossible a couple of years ago, is shown rather conclusively by the remarkable absorption at steady prices of last season's Australian clip. Not only was the Australian clip of approximately 2,200,000 bales sold, but also the carry-over of the previous season amounting to about 500,000 bales. The average spot grease prices month by month covering the various Australian selling centers show an unusual steadiness. The month with the highest average price in season 1925–1926 was only 3 pence a pound above the low average monthly price of the period. The average price for the ten months, July, 1925–April, 1926, was 16.5 pence. In September, 1925, the average price was at the low of 15.1 pence and in November the high average was 18.1 pence. Values have been steady all through the year 1926, the average price of the first four months being 16.5 pence for spot wool in the grease. The showing is as follows:

1925	
July	**16.3 d**
August	**16.1 d**
September	**15.1 d**
October	**16.5 d**
November	**18.1 d**
December	**16.8 d**
1926	
January	**17.1 d**
February	**16.3 d**
March	**16.2 d**
April	**16.4 d**
Average, 10 months	**16.5 d**

This approximation to stability in the Australian clip is quite reassuring, particularly when it is taken into account that in poundage it slightly exceeds year by year the total wool consumption, foreign and domestic, in the United States.

Wool and Substitute Quotations

(Corrected at close of business on Wednesday)

WOOL

Ohio, Pennsylvania and West Virginia

Fine delaine	.44—.45
Fine clothing	.37—.38
½ blood	.43—.44
⅜ blood	.42—.43
¼ blood	.42—.43

California
(Scoured Basis)

Northern, 12 mo.	1.10—1.12
Southern, 12 mo.	.95—1.00

Texas
(Scoured Basis)

Fine 12 mo.	1.05—1.07
Fine 8 mo.	.95—1.00

Pulled—Eastern
(Scoured Basis)

A.A.	1.12—1.15
A-Super	.93—.95
B-Super	.80—.85
C-Super	.65—.68

Montana, Idaho and Wyoming
(Scoured Basis)

Staple fine	1.10—1.12
Do, ½ bld.	.98—1.00
Fine & fine medium clothing.	.98—1.00
⅝ blood	.88—.91
¼ blood	.78—.81

Mohair
Domestic

Best combing	.75—.80
Best carding	.65—.70

Foreign (In Bond)

Turkey Fair av.	.42—.43
Cape Firsts	.43—.45

Foreign Clothing and Combing
(In Bond)

Scoured Basis—Cape:	
Super 12 months	.95—1.00
Super 10-12 months	.88—.92
Australian:	
7s	1.10—1.12
64s	.95—.98
58—60s	.83—.85
Grease Basis:	
Montevideo:	
58—60s	.42—.43
56s	.39—.40
50s	.36—.37
Buenos Aires:	
48, 40—44s	.28—.29
58, 56—40s	.26—.27

Foreign Carpet
(Grease Basis in Bond)

China: Combing	.26—.27
Szechuen ass't	.24—.25
Cordova	.20—.21
Scotch Black Face	.21—.22
East India: Kandahar	.32—.35
Vican'r	.40—.46
Joria	.39—.45

SUBSTITUTES

Wool Waste

Lap—	
Fine white	1.10—1.12
Fine colored	.88—.90
Thread White Worsted—	
Fine	.82—.85
½ blood	.75—.80
⅜ blood	.65—.70
¼ blood	.48—.50
Thread Colored Worsted—	
Fine	.38—.40
½ blood	.35—.38
⅜ blood	.33—.35
¼ blood	.30—.32
Card—	
Fine white	.48—.50
Medium white	.38—.42

Old Woolen Rags

Merinos—	
Coarse light	9½—10
Fine light	17½—18½
Fine dark	6 — 6½
Serges—	
Light	12½—13
Blue	10 —11
Black	7½— 8
Red	17 —18
Knit—	
White	39 —40
Red	18½—19
Light Hoods	23 —24
Worsteds—	
Light	10 —10½
Black	9 — 9½
Blue	9 — 9½

Wool Interest Broadens

Values Considered Sound—Sales Not Pushed

BOSTON.—Summer Street is not making any effort to push sales. There is at this time no big market in wool but interest is broadening on the basis of values considered serviceable, sound and stable. Prices placed upon the 1927 fabrics by the big manufacturers seem to raise no particular opposition on the part of buyers and by the time the goods market reaches its full and complete development a steady stream of wool orders ought to be flowing into Summer Street for both woolen and worsted sorts. The general situation at this time is at the maximum uneasiness in

(*Continued on page* 140)

NATIONAL ERIE BLUE GREEN CW

A RECENT addition to the National's line of Direct Dyes, possessing excellent solubility and good level dyeing properties. Its dull green tone makes it desirable as a shading product, dyeing cotton, wool, and silk practically the same shade.

Product samples with full technical information upon request from any National Branch.

National Aniline & Chemical Co., Inc.
40 Rector Street, New York, N. Y.

BOSTON PHILADELPHIA SAN FRANCISCO
PROVIDENCE CHICAGO MONTREAL
HARTFORD CHARLOTTE TORONTO

NATIONAL DYES

NATIONAL N DYES

AMALIE PRODUCTS

Power of Penetration

The Facts about Amalie Sonolene are well worth Knowing!

What are you looking for in the bleaching and dyeing of cotton yarns and piece goods? Speed? Economy? Quality? All these you get in Amalie Sonolene—a most powerful detergent.

For Amalie Sonolene is *a forceful penetrant* which

—increases the effectiveness of penetration by the alkali, and counteracts its harsh action;

—causes maximum thoroughness and completeness of the Kier boiling;

—readily dissolves and removes the natural fatty and waxy impurities in the cotton, attaining perfect white in bleaching;

—*requires only one boil where two were needed;*

—in open and closed dyeing machines, eliminates the usual difficulties of ordinary turkey red oils through foaming, being recommended especially for Franklin Dyeing Machines;

—in raw stock dyeing, eliminates static by the addition of from 1½% to 2%.

And all these advantages come back to its essential property—its *power of penetration.* Try out Amalie Sonolene and be convinced!

Leaflet completely describing the properties, function and uses of Amalie Sonolene sent anywhere free upon request.

L. SONNEBORN SONS, Inc.
Manufacturing Chemists for the Textile Industry
114 Fifth Avenue New York
Sales Offices and Warehouses in all Principal Textile Centers

Amalie SONOLENE

L. SONNEBORN SONS INC., NEW YORK, N.Y.

DYESTUFFS AND CHEMICALS

Bureau Features Dye Fastness Exhibit

WASHINGTON, D. C.—The exhibit of the Bureau of Standards at the Sesquicentennial Exposition in Philadelphia includes a demonstration of the fastness to light of dyed textiles. Samples of different materials colored with various kinds of dyes are mounted on a panel. During the summer an important series of exposure tests of dyed fabrics will be conducted at the Bureau in cooperation with the American Association of Textile Chemists & Colorists, as previously reported in TEXTILE WORLD.

Compiles Bulletin on Laundering of Fabrics

WASHINGTON, D. C.—Directions for laundering silks, rayon, woolens and other articles requiring special attention are included in Farmers' Bulletin 1497-F, "Methods and Equipment for Home Laundering," just issued by the Department of Agriculture. The bulletin applies the latest findings of science to the home laundry problem.

NEW BRUNSWICK, N. J. The Cadgene Piece Dye Works, Inc., recently organized with a capital of $200,000, to operate a local plant, will be represented by Louis Mees, Quentin Ave., New Brunswick. The company is headed by Ernest Cadgene and George DuPont.

Germans Acquire French Dye Firm

Control of Largest Producer Secured—Plans to Block Move—Another Step in Commercial War

IT does not require a fanatic—or one still living in the atmosphere of World War days—to recognize in the latest development in the dyestuff field one more chapter in the story of Germany's intensive fight to recover her place in the dyestuff sun. This development was the acquisition by the German dye cartel of a controlling interest in the Etablissements Kuhlmann, the largest French dye manufacturing concern. News of this coup first became known in this country through a copyrighted dispatched to the *New York Times* from its Paris correspondent.

Previous chapters in this far-reaching commercial drama have included the cooperative agreement reached between the French and German dye industries in 1920 and later abrogated; negotiations for a similar arrangement with Great Britain which, according to general understanding, died because of premature publicity; and various other working agreements of different kinds established or attempted with other countries.

None of this is said in a controversial spirit—nor is denial implied of the right of the German manufacturers to conclude such commercial negotiations as they are able. Nevertheless there has been a very decided feeling in most of the countries concerned that such control of an industry, regarded as essential to national defense, is ill-advised and sentiment is usually against the intrusion of anything but domestic control.

Control Gained Quietly

In the case of the acquisition of majority interest in the Kuhlmann company, the dispatch states that this end was obtained quietly and without any knowledge of the fact in France. Within the last seven weeks stock of the company rose steadily from 450 francs a share to 1000 francs. Searching inquiry was started and it has just been learned that the cause of this advance was the concerted purchase of the stock by German interests. It was also learned that majority control had been secured.

The feeling that has existed in France against such participation, ever since the days of the abrogation of the Franco-German agreement, has re-asserted itself and it is stated that a special meeting of the directors and stockholders of the Kuhlmann company has been called to approve the issuance of 100,000 shares of stock at a par value of 100 francs a share, registration being obligatory, and the shares being non-transferable without the consent of the directors. The shares would carry plural voting rights and the issue would be reserved first for registered shareholders first on August 20, and to holders and bearers of shares deposited prior to that date for conversion into registered shares. In other words, this move, if successful, would bring the German majority stockholders into the open and would also result in loss of control of stock by Germans as they would undoubtedly find the new issue over-subscribed. In addition it is believed that every assistance would be given by the French government in the endeavor to prevent foreign domination of the domestic dye industry.

Background of Company

The background of the company concerned is of interest. The Etablissements Kuhlmann was founded in 1825 near Lisle, originally for the exclusive production of sulphuric acid. Two more plants were established for the manufacture of acids and general chemicals and then additional factors

Miscellaneous Chemicals

Alumina Sulp. com.	1 40 — 1 45
Iron Free	2 00 — 2 05
Alum, Ammonia Lmp.	3¾— 3½
Potash, Lump	2¾— 3½
Ammoniac, Sal. white gr., dom.	5½— 7
Bleach powder, per 100 lb. works, carloads.	2 00 — 2 40
Blue Stone	5 — ...
Calcium Arsenate	7½— 9½
Chlorine, Liq. Cylinders	5½— 9
Tanks	4 4¼
Copperas, ton	12 00 —18 00
Cream of Tartar	21 — 21½
Epsom Salts, 100 lb.	1 30 — 2 00
Formaldehyde Spot	9 — 9½
Glauber Salts, 100 lb.	80 — 1 20
Glycerine (C. P.) bbls.	30 — 32
Cans	31½— 33½
Yellow Crude	30 — 32
Hydrosulphite Conc.	23 — 25
Lead—Brown acetate	13 — 13½
White (crystals)	14 — 14½
Lime, acetate, 100 lb.	3 25 — ...
Potassium—Bichromate	8¼— 8½
Chlorate crystals	8½— 9
Permangan, tech	14½— 15
Sodium acetate	4½— 5
Bichromate	6½— 6¾
Bisulphite, 35%	1 50 — 1 75
Nitrite	9 — 9¼
Phosphate	3¼— 3¾
Prussiate, yellow	10 — 10¼
Sulphide, 60% fused	3¾— 4
30% crystals	2½— ...
Tartar emetic, tech	29 — 31½
Tin—Crystals	41½— 42
Bichloride, 50 deg.	17 — 17¼
Oxide, bbls.	64 — 66
Zinc Dust	9½— 10

Acids

Acetic, 28% per 100 lb.	3 25 — 3 50
Citric crystals	45 — ...
Formic, 90%	10½— 11
Lactic 22%	5½— 7
Muriatic, 18 deg. per 100 lb. in tank cars.	85 — 95
Nitric, 36@42 deg. per 100 lb.	5 00 — 6 75
Oxalic	10¾— 11½
Sulphuric, 66 deg. per ton in tank cars	15 00 —16 00
Tartaric	29 — 29½

Alkalies

Ammonia, aqua, 26 deg.	3½— 4
Borax, Crys. bbls.	5⅞— ...
Potash, carbonate, 80-85%	6 — 6¼
Caustic, 88-92%	7⅛— 7⅝
Soda Ash, 58% light	1 43 — 2 44
Contract, 100 lb.	1 25 — 1 63
Bicarb, per 100 lbs.	1 90 — 2 25
Caustic, 76% per 100 lb.	3 20 — 3 90
Contract, 100 lb.	3 10 — ...
Sal. 100 lb.	1 10 — 1 25

Natural Dyes and Tannins

Fustic: Crystals	20 — 22
Liquid, 51 deg.	10 — 12
Gambier, liquid	12½— ...
Hematine, crystals	14 — 20
Hypernic Ext.—51 deg.	12 — 16
Indigo—Madras	1 30 — ...
Logwood Extract, liq. 51 deg.	8 — 10
Crystals	16 — 20
Osage Orange, Extract, 51 deg.	7 — 7¼
Quercitron extract, 51 deg.	6 — 7
Sumac. Ext. dom., ref., 51 deg.	6½— 7
Extract, stainless	10 — ...
Tannic Acid, tech.	35 — 40

Dyestuffs and Intermediaries

Alpha Naphthol, ref.	90 — 95
Crude	60 — 65
Alpha Naphthylamine	35 — 37
Aniline Oil	15 — 17
Salt	22 — 24
Beta Naphthol, sublimed	55 — 60
Technical	22 — 24
Dimethylaniline	30 — 32
Metaphenylene Diamine	90 — 95
Paranitraniline	48 — 50

Oils and Soaps

Castor Oil, No. 3	12 — 13
Olive Oil, denatured, gal.	1 20 — ...
Foots	8½— 9
Red Oil, lb.	9 — 10½
Stearic Acid, double presses	13 — 13½
Turkey Red Oil, 50%	10 — 12

Adhesive and Sizing Materials

Albumen, blood domestic	50 — 55
Dextrine-Potato	7½— 8
Corn, bags, 100 lb.	4 07 — 4 12
Do. bbls. 100 lb.	4 34 — 4 39
Gum, British, 100 lb.	4 37 — ...
Do. bbls.	4 64 — ...
Sago flour	3½— 4
Starch, corn, 100 lb.	3 32 — 3 42
Do. bbls.	3 59 — 3 69
Do. thin boiling, bags, 100 lb.	3 92 — 4 02
Do. bbls.	4 19 — 4 29
Potato	6½— ...
Rice	9 — 9½
Wheat	6½— 7
Tapioca flour	3½— 5½

Coal Tar Dyes

Direct Colors—	
Black (H-acid)	28 — 35
Black Columbia FF.	50 — 60
Blue, 2 B.	24 — 32
Blue, sky ordinary	60 — 80
Blue, 2 GL.	2 00 — 2 50
Blue, 4 GL.	2 25 — ...
Blue Sky, FF.	95 — 1 50
Blue, Fast, RL.	1 90 — ...
Blue, Solamine	2 00 — ...
Benzo Azurine	75 — 80
Brown, C.	40 — 60
Brown, M.	70 — 90
Brown, Congo G.	85 — ...
Brown, Congo R.	80 — ..
Green, B.	60 — 90
Green G.	65 — 90
Orange, Congo	60 — ...
Orange, Fast S.	1 70 — ...
Red, Fast F.	80 — 90
Red, Congo	40 — 50
Benzo Purpurine 4 B.	40 — 60
Benzo Purpurine 10 B.	1 25 — 1 50
Scarlet, 4 BA.	1 50 — ...
Scarlet, 4 BS.	2 10 — ...
Scarlet, 8 BS.	2 15 — ...
Scarlet, Diamine B.	1 65 — ...
Violet N.	1 10 — 1 20
Yellow chrysophenine	60 — 1 80
Yellow, Stilbene	90 — 95
Developing Colors—	
Black, B H.	40 — 60
Black Zambesi	.... — 90
Bordeaux, Dev.	2 50 — ...
Orange, developed	2 50 — ...
Primuline	1 00 — 1 15
Red, Dev. 7 BL.	2 50 — ...
Scarlet, Dev.	2 50 — ...
Sulphur Colors—	
Black	14 — 24
Blue, cadet	90 — 95
Blue, navy	50 — 60
Brown	20 — 60
Green	55 — 1 50
Green, olive	25 — 50
Yellow	45 — 50
Basic Colors—	
Auramine	90 — 1 00
Bismark Brown	50 — 60
Chrysoidine	40 — 65
Fuschine crystals	1 50 — 1 75
Malachite green	1 50 — ...
Methylene blue	1 10 — 1 25
Methyl violet	80 — 1 15
Rhodamine B, extcone	5 50 — 6 00
Safranine	1 45 — 1 60
Victoria Blue B.	3 10 — ...
Acid Colors—	
Naphthol blue blk.	35 — 60
Naphth lamine black 4 B.	50 — 55
Alizarine saphirol	2 75 — 4 00
Alkali blue	3 25 — 3 50
Indigotine	75 — 1 30
Induline (water soluble)	75 — 80
Soluble Blue	3 00 — 3 75
Sulphoneyanine	70 — 95
Sulphone Blue R.	60 — 95
Patent Blue A.	2 85 — ...
Rescorcin brown	80 — 90
Guinea green	1 00 — 2 20
Wool green S.	70 — 1 70
Orange II	24 — 30
Orange GG crys.	60 — ...
Acid Fuchsine	80 — 90
Azo eosine G.	65 — 82
Crocein scarlet	1 15 — 1 30
Fast red A.	50 — 65
Azo yellow	1 35 — 1 40
F. Light Yellow 2 G.	2 00 — ...
F. Light Yellow 3 G.	1 00 — 2 50
Naphthol, yellow	1 35 — 1 40
Chrome Colors—	
Aliz. Black B.	2 00 — ...
Diamond Black PV.	70 — ...
Chrome Blue Black	40 — 50
Chrome Brown	60 — 1 25
Chrome Green	75 — 1 50
Chrome Yellow	45 — 1 10
Indigo—	
Synthetic 20% paste	14 — 11½

The output which finds a demand these days must be characterized by some superiorities. Stocks treated with the

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suffer no weakening of the fibre, feel softer, look better, are more lofty and cost no more to produce.

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Many prominent textile mills have found it profitable to replace obsolete extractor equipment with modern and efficient

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Let us show you how quickly Fletcher Extractors have paid for themselves in a number of typical installations. It will pay you to get the facts!

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INCORPORATED
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Textile Manufacturers
Should be interested in DIAX for the following reasons

FOR BLEACHING
Purer whites are obtained, less tendency to weaken fibres, saving of time and chemicals.

FOR DYEING
More level dyeings are obtained with economy of dyestuffs. Thorough degumming of previously dyed and finished goods are easily and cheaply performed.

FOR MERCERIZING
Has increased affinity of the cloth for the caustic liquor, gives better lustre, the mercerizing lye kept clearer and lasts longer.

FOR PRINTING
It is especially useful in making adhesive sizes and finishes, and less expensive, and is devoid of color and easily removable.

FOR FINISHING
Thin fluid mixing are produced which penetrate the cloth better, giving superior results in the handle and feel of the cloth, and economy in the use of starch and dextrine.
Further information gladly given.
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Stackers—Tiering Machines — Portable or Stationary
Economy Engineering Co.
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342 Madison Ave., New York

Dyestuffs and Chemicals—Continued

ies were established both at home and in Belgium. A succession of amalgamations with other companies followed until finally the most important development was the merger in December, 1923, with the Compagnie Nationale de Matieres Colorantes et Produits Chimiques, the leading French dye concern. In this way the Kuhlmann organization became the dominant factor in French chemical and dyestuff manufacture, representing as it did a combination of both phases.

Foreign Chemists Arriving for Golden Jubilee of A. C. S.

Foreign chemists, the vanguard of the largest contingent that has ever visited America, are beginning to arrive in New York to join with chemists of this country in celebrating at Philadelphia during the week of September 6 the golden jubilee of the American Chemical Society.

Nearly 4,000 scientists are expected to attend the Philadelphia sessions, it was said by Dr. Charles L. Parsons, secretary of the society. Hundreds of papers and addresses will be delivered.

"At the end of the first half century of its existence," Dr. Parsons said, "the American Chemical Society is three times as large as any other organization of chemists in the world, having now 14,900 members, including nearly all the prominent chemists in America, and many foreign chemists as well."

Obituary

Henry S. Culver

Henry S. Culver, formerly a well known official of the textile industry in Southeastern Massachusetts, died at his home 151 Walker street, Taunton, Mass., on July 28, in his 88th year. Mr. Culver was a native of Rhode Island and came to Taunton about 1860. He was treasurer of the Westville Spinning Co. of Taunton, and later was instrumental in reorganizing the Elizabeth Poole Mill, which is now known as the Old Colony Mfg. Co., of which his son Henry H. Culver is treasurer and superintendent at the present time. The mill was purchased by the elder Culver and others in 1912. Mr. Culver was interested in the management of the affairs of his city, and served from 1895 until the time of his death on the Taunton Sewer Commission. For many years he was chairman of the commission. He was a trustee and a member of the board of investment of the Taunton Savings Bank. Mr. Culver was also a member of the bank's finance committee. He was a prominent Mason and a member of King David Lodge, A. F. & A. M. He leaves two sons, Henry H. and Fred S. Culver, and four grandsons.

John Robertson

John Robertson, one of the oldest textile selling agents in Canada died recently in Montreal in his 86th year. For the last 35 years Mr. Robertson has conducted a commission business representing English firms among which were McConnel & Co., Ltd., of Manchester; Meredith Jones & Co., Manchester; Robt. Hyde & Co., of Stalybridge, and Thomoson's of Kendal.

John D. Sells

John D. Sells, widely known in transmission machinery circles, and former salesmanager of Royersford Foundry & Machine Co., Philadelphia, died July 29 at the Marlborough-Blenheim, Atlantic City. He was 69 years old. Mr. Sells was born in Atlanta. After giving up law because he liked business better, he became associated with the Charles Bond Co., Philadelphia, and afterwards became salesmanager for the Royersford Foundry & Machine Co. He was largely responsible for the growth of this company. He retired from this position of director of sales four years ago. Since then he had spent most of his time traveling around the country, looking after various interests which he had.

Milton N. Eldridge

Milton N. Eldridge, president and general manager of the Warrensburg (N. Y.) Woolen Co., died on Aug. 3, at his summer home at North Creek, N. Y. He was born at Wevertown, N. Y., Oct. 16, 1881. He had been connected with the woolen company virtually his entire life serving as vice-president and general manager. Upon the death of L. R. Emerson recently he was elected president of the company.

George A. Bicknell

George A. Bicknell, retired wool broker of New York, died last Saturday at the Hotel Monmouth, Spring Lake, N. J., where he was spending the summer. He was 72 years old and had had a long and successful career in the New York wool market. He is survived by his widow and two daughters. Funeral was held last Wednesday from the home of his daughter, Mrs. F. C. Zabriskie at Hackensack, N. J.

Timothy Sullivan

Timothy Sullivan, a former superintendent of both the Davol and Stafford mills, Fall River, Mass., died at his home in that city last Tuesday following a brief illness. He gave up active business some years ago because of his age, being over 70 years of age at that time. He leaves three brothers, John and Patrick, of Fall River, and Daniel, of Boston.

J. W. Blumdell

Out of respect to the memory of the late J. W. Blumdell the offices of Lawrence & Co., Boston and New York, were closed during the funeral services on Wednesday from 10 to 11 a. m. Mr. Blumdell was associated with Lawrence & Co. for many years and was a junior partner at the time of his death. He was in charge of the staple print department of the Pacific Mills. Funeral was in New York.

George B. Adams

George B. Adams, president of Adams Bros. Mfg. Co., and president of the Greylock National Bank, of Adams, Mass., died suddenly on Wednesday at Newport, N. H. He was a director of the old New England Power Co. and of the New England Fire Insurance Co., of Pittsfield, Mass.

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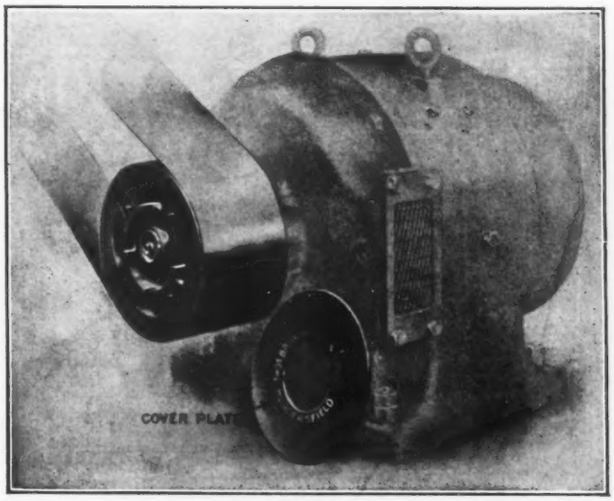

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Cotton and Waste Cleaner, Wool Cleaner and Blender.

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EARLY ADVERTISING COPY

It is essential that advertising copy for Clearing House Section reach the publishers on Wednesday of the week of publication in order to insure insertion in the current issue.

Textile World, 334 Fourth Ave., New York

Wool Markets

(*Continued from page 135*)

the worsted yarn and top markets which continue their struggle to adjust themselves within the narrow space afforded them by an unyielding wool market at the bottom and a firm low-priced goods market at the top. Two or three of the larger mill organizations in receipt of cloth orders continue to buy sparingly, a little here and a little there. The operations are being conducted in such a fashion as to suggest the plain intention of the purchasers to acquire additional supplies at lowest prices possible. This kind of buying is likely to continue and with some prospect of broadening out as other mills from time to time get favorable reactions from the goods market.

The recent flurry in woolen wools has died away. Domestic grease wools are moving spottily at firm prices with delaine held at 45c and ¼ blood Ohio at 43c. Territory wools are the more active, particularly in the fine and ¼ blood grades. Some mills continue to make bids below the market and are successful occasionally in getting the wool. There is some buying of India wools and second clip South Americans. Australians 64-70s are moving out of bond at about $1.00 a pound. Carpet wools are slow with China wools on a firmer level.

The London sales closed somewhat irregularly, merinos being off slightly. America on the balance sold more wool in London than she bought. The fifth series is expected to open Tuesday, Sept. 14. Foreign wools into Boston to date are approximately 150 million pounds as compared with 115 million pounds at this period last year. The Boston market can hardly be thought of as short of wool, although it has to be noted that shipments out of the city by rail for year to date are approximately 25 million pounds than during similar period last year.

This season's domestic clip, according to Government estimates, will be the largest for many years. Since the passage of the tariff now in force there has been a steady increase from 219,000,000 lbs. in 1923 to 269,000,000 lbs. for 1926. High and low clips covering the last 13 years are as follows: 1914, 247,200,000 lbs.; 1919, 265,900,000 lbs.; 1922, 219,100,000 lbs.; 1926, 269,100,000 lbs.

Boston Wool Receipts

Receipts of domestic and foreign wools at Boston, also imports at Philadelphia and New York for the week ended July 31 based upon data compiled by the Market News Service of Bureau of Agricultural Economics, Department of Agriculture, are as follows, in lbs.:

RECEIPTS AT BOSTON

	Week Ended July 31	1926	1925
Domestic	10,590,000	108,211,000	70,300,000
Foreign	832,000	143,030,000	106,198,000
Total	11,422,000	251,241,000	176,498,000

IMPORTS AT PRINCIPAL PORTS

Boston	838,000	143,030,000	106,193,000
Philadelphia	450,000	25,160,000	53,153,000
New York	777,000	35,713,000	41,595,000
Total	2,065,000	203,903,000	200,941,000

China Wools Scarce

Civil War There Prevents Shipments of Wool to America

PHILADELPHIA.—Although nothing spectacular has occurred during the week, trading continues fairly active, with territory and fleece wools being taken in small to medium sized quantities, no large sales being reported, by a larger number of spinners and manufacturers. Dealers find demand is becoming more general, manufacturers now inquiring for all grades whereas quarter blood was the only one moving for several weeks. Prices have not changed appreciably during the last three weeks and remain steady with no immediate prospect of rising to any important extent.

Carpet wools, particularly East Indias, are stronger and selling at higher figures than two weeks ago. Dealers quote 40c to 46c on Vicaneers and a cent lower on Jorias. China wools are practically nominal as no supplies are reaching this country although we normally take the bulk of the Chinese clip, this being due to the continued state of war existing in that country of which there is no prospect of an end. Clip of China is estimated at 60,000,000 lbs., and with this amount of wool off the market for an indeterminable period dealers and manufacturers have been compelled to look to other sources for supply which would have been felt more keenly had the American carpet trade been more normal during the last two years.

Fleece wools of best quality are quoted at 43c for quarters, 44c for half and 45c for delaines. Although sales are not individually large more mills are buying in a conservative manner.

Noils are the most active of stock going to woolen mills, fine bringing from 82c to 85c, depending upon the lot. Pulled wools are holding steady with a poor to fair demand. Remaining lots of B supers are held at 85c while lambs are selling at 80c to 83c. AAs are bringing $1.07 and higher, A fine at $1.00 to $1.03 and A supers at 93c.

Active Wool Machinery

WASHINGTON, D. C.—The Department of Commerce has announced statistics on active and idle wool machinery for June, 1926, based on reports received from 932 manufacturers, operating 1,109 mills. This is exclusive of all manufacturers, operating 19 mills, who failed to report for the month. According to reliable textile directories for 1925, these nonreporting mills are equipped with about 3,184 looms, 194 sets of woolen cards, 97 worsted combs and 186,766 spindles. In general there was further curtailment. Percentages of activity follow:

Month	Looms				Spinning Spindles	
	Per cent active of total number of machines					
June, 1926	56.6	64	65.1	74.4	70.3	62.2
May, 1926	58.9	65.3	67.8	74.0	71.4	65.2
June, 1925	65.7	71.9	74.2	80.4	79.0	58.8
	Per cent active of total hours maximum single-shift capacity					
June, 1926	57.2	57.4	58.1	74.5	71.1	56.1
May, 1926	57.4	56.8	57.4	72.6	70.2	57.2
June, 1925	64.9	58.8	69.9	82.3	82.5	52.0

Situations Wanted

Manufacturers who are in need of superintendents or overseers for any department of mill work may learn of suitable men upon application by mail or telephone to C. T. DONLEVY, care Textile World, 65 Franklin Street, Boston, Mass.

WOOLEN OR WORSTED DESIGNER. Position wanted by man 40 years of age, Scotch, single. Worked on wool and worsted suitings, coatings and plaid-back overcoatings. Good recommendations. O. B. 109, Textile World, Boston, Mass.

OVERSEER DRESSING, SPOOLING, WINDING, TWISTING AND WEAVING. Position wanted by man 35 years of age, American, married. Worked on woolen, worsted, cotton worsted, etc. Familiar with D&F, Cleveland, Foster, Universal, Collins, Fales & Jenckes, C&K looms. Good references. O. B. 211, Textile World, Boston, Mass.

FOREMAN OF KNITTING UNDERWEAR MILL. Position wanted by man 44 years of age, American, married. Worked on fleece-lined, balbriggan, flat-wool work, wool-cut pressure work, etc. Familiar with Pomphlits, Gormley, Campbell and Chute, and Cooper spring needle machines; Huse, Brinton, Scott & Williams latch needle machines. Good recommendations. O. B. 221, Textile World, Boston, Mass.

OVERSEER COTTON DYEING OR SECOND HAND. Position wanted by man 32 years of age, American, married. Worked on cotton yarns, raw stock, hosiery, underwear, long and short chain dyeing, bleaching, etc. Familiar with Franklin Process, Tennessee vacuums, Delahunty, Klauder-Weldon and Butterworth machines. Good recommendations. O. B. 229, Textile World, Boston, Mass.

OVERSEER WOOLEN OR WORSTED FINISHING. Position wanted by man 40 years of age, American, married. Worked on woolens, worsteds, cotton worsteds, and auto cloth. Familiar with all makes of finishing machinery. Good recommendations. O. B. 624, Textile World, Boston, Mass.

OVERSEER DYEING OR SUPERINTENDENT OF DYEING. Position wanted by man 43 years of age, American, married. Worked on raw stock, wool, shoddy, silk and cotton piece goods, worsteds, wool, cotton and union, wool and cotton hosiery, yarns, etc. Familiar with all makes of dyeing machinery. Good recommendations. O. B. 876, Textile World, Boston, Mass.

SUPERINTENDENT COTTON YARN OR CLOTH MILL OR OVERSEER MULE AND RING SPINNING. Position wanted by man 50 years of age, English, married. Worked on Sea Island and Egyptian cotton combed from 6s to 140s, hosiery warp, thread and tire yarns. Familiar with Asa Lees, Hetherington, Dobson & Barlow, Mason, Lowell Whitin and Howard and Bullough machines. Good references. O. B. 1031, Textile World, Boston, Mass.

OVERSEER DYEING WOOLEN OR WORSTED MILL. Position wanted by man 26 years of age, American, single. Worked on raw stock, wool, shoddy, skein dyeing, woolen and worsted piece dyeing. Familiar with Klauder-Weldon, Rodney Hunt, Franklin process machines. Good recommendations. O. B. 1034, Textile World, Boston, Mass.

OVERSEER WEAVING OR ASSISTANT SUPERINTENDENT IN WOOLEN MILL. Position wanted by man 40 years of age, English, married. Worked on blankets, fancy woolens, etc. Familiar with C&K, Crompton, Hutchinson & Hollingsworth and D&F looms. Good recommendations. O. B. 1044, Textile World, Boston, Mass.

OVERSEER CUTTING OR ASSISTANT SUPERINTENDENT IN UNDERWEAR MILL. Position wanted by man 34 years of age, American, married. Worked on cotton, silk, woolen underwear for men, women and children. Good references. O. B. 1148, Textile World, Boston, Mass.

SUPERINTENDENT KNIT UNDERWEAR MILL. Position wanted by man 37 yrs. of age, American, married. Worked on ribbed cotton, ladies and men's light wgt. suits, etc. Familiar with all makes of machinery. Good recommendations. O. B. 805, Textile World, Boston, Mass.

OVERSEER FINISHING IN KNITTING MILL. Position wanted by man 26 yrs. of age, American, married. Worked on heavyweight wool, cotton, unions, shirts and drawers. Familiar with Union special, Singer and Metropolitan machines. Good recommendations. O. B. 991, Textile World, Boston, Mass.

MASTER MECHANIC. Position wanted by man 50 years of age, American, married. Worked on all machinery used in cotton, woolen or worsted mill. Good recommendations. O. B. 1077, Textile World, Boston, Mass.

OVERSEER CARDING IN SMALL WOOLEN MILL OR SECOND HAND. Position wanted by man 29 years of age, American, single. Worked on wool, shoddy and silk blends, 1½ to 5½ run. Familiar with D&F cards. Good recommendations. O. B. 104, Textile World, Boston, Mass.

OVERSEER WOOLEN CARDING. Position wanted by man 38 years of age, American, married. Worked on men's suitings, plaid backs, steamer rugs, and all kinds fancy woolens. Familiar with Davis & Furber cards. Good recommendations. O. B. 156, Textile World, Boston, Mass.

OVERSEER DYEING IN WOOLEN MILL. Position wanted by man 46 years of age, American, married. Worked on men's wear, ladies dress goods, garbardines, worsted yarns, cotton yarns, raw stock. Familiar with Klauder-Weldon stock and yarn machines, open tubs for cotton yarns. Good recommendations. O. B. 228, Textile World, Boston, Mass.

OVERSEER FINISHING OR BURLING AND SEWING IN WOOLEN MILL. Position wanted by man 32 yrs. of age, English, single. Worked on all kinds of woolen and worsted goods. Familiar with Parks & Woolson, Hunter, Rodney Hunt, D. & F. Butterworth, and Curtis & Marble machines. Good recommendations. O. B. 318, Textile World, Boston, Mass.

FOREMAN BLEACHER. Position wanted by man 31 yrs. of age, Polish, married. Worked on all kinds cotton goods. Familiar with all makes machinery. Good recommendations. O. B. 359, Textile World, Boston, Mass.

Business News

Lestershire Spool Survey Shows Big Saving

An investigation was recently conducted in the mill of the Richard Borden Mfg. Co., Fall River, Mass., by the A. C. Nielson Co., engineers, Chicago, to ascertain the amount of saving effected each year by the use of Lestershire spools in place of wooden bobbins. The new spools are of the vulcanized fiber type and are used on warpers and spoolers.

The Fall River mill weaves cotton print cloth, shade cloth, curtain cloth, comb fancies, and voiles, using 30s and 40s yarn. Three out of nine spoolers and four out of thirteen warpers are equipped with 12,000, 4 x 6 in. spools. Since each of these weighs one ounce less than a wooden spool of the same dimensions, and since the fiber spools are perfectly balanced, there was found to be smoother action and less wear on the spindles, as well as a saving in power on the spoolers.

The investigator's report also states that smoother spool head edges caused fewer breaks on the warpers, which meant greater and more nearly perfect production. It was found that a beam could be run off in 7½ hrs. with the Lestershire spools, while the wooden spools required 8 hrs. The saving here was estimated at $182 per year on the four Lestershire equipped warpers. It was apparent that spool replacement has been eliminated with the fiber spools, to which fact a saving of 3,640 spools or $728 yearly is attributable on the seven units which are run with the fiber type of spool. The absence of broken, rough and cracked spool heads also accounted for the smaller number of injuries to operatives by splinters, etc.

An average of 1/10 of the broken wooden spools were found to hold yarn which was necessarily cut off and wasted. This item of waste reduction by the use of Lestershire spools amounted to $204.75 during a year. From the above data it will be seen that a gross saving of $1,114.75 was made on the third of the total equipment furnished with Lestershire spools. Deducting 5c per fiber spool per year for depreciation, the net saving was $514.75, which repays the original cost of the spools each year. The weaving company intends to replace the wooden bobbins with Lestershire vulcanized fiber spools as rapidly as the former are discarded, and in this manner estimates effecting a net saving of about $1550 each year.

Awards Contract on Foster Machine Co. Addition

WESTFIELD, MASS.—The contract for installing the heating, plumbing and sprinkler systems in the new addition to the Foster Machine Co., has been awarded to the Holyoke (Mass.) Supply Co. for $11,900.

The TEXTILE CLEARING HOUSE

Mills Wanted, For Sale or Lease

Unusual opportunity to secure modern plant completely equipped for manufacturing all types of Rayon and Cotton lingerie, dresses and men's underwear.

This is one of the most modern and up-to-date plants in the country. Centrally located in Pennsylvania, in a community where plenty of labor is available at a low wage.

If interested address:

Adv. 450, Textile World,
334 Fourth Avenue, New York

Men Wanted

Wanted

A plate cutter to take a permanent position in a textile engraving shop.

Address Adv. 439, Textile World
334 Fourth Ave., New York.

BOSS PRINTER

Wanted—Practical man who thoroughly understands the running of a printing machine on heavy ducks and similar cloths. One printing machine plant. State age, if married, what plants you have worked and salary expected to start. Good future.

Address Adv. 445, Textile World
334 Fourth Ave., New York

SALESMAN WANTED

Philadelphia territory, to handle high grade line of Card Clothing. Unusual opportunity for right man. Salary and commission basis. All replies confidential. Give full details.

Address Adv. 452, Textile World,
828 Drexel Bldg., Phila., Pa.

ASSISTANT DYER. Position wanted by man 25 yrs. of age, American, single. Worked on mercerized cotton, pecker cotton, celanese, tram, art silk, and full fashioned hosiery. Familiar with Smith Drum machines. Good recommendations. O. B. 363, Textile World, Boston, Mass.

ASSISTANT DESIGNER OR EXAMINER IN WLN. OR WST MILL. Position wanted by man 27 yrs. of age, German, single. Worked on all kinds of woolen and worsted goods. Familiar with English, American and German looms. Good references. O. B. 458, Textile World, Boston, Mass.

OVERSEER COTTON WEAVING. Position wanted by man 37 yrs. of age, English, married. Worked on men's suitings, ladies dress goods, lenos, marquisettes, voiles, silk crepes and rayons. Familiar with Draper, Stafford, Whiting, etc. looms. Good recommendations. O. B. 586, Textile World, Boston, Mass.

WORSTED YARN SUPERINTENDENT OR OVERSEER WORSTED SPINNING. Position wanted by man 50 years of age, English, married. Worked on fine, medium and coarse yarns. Familiar with Prince Smith, Hall & Stell and Lowell machines. Good references. O. B. 654, Textile World, Boston, Mass.

SUPERINTENDENT OR ASST SUPT. AND DESIGNER IN WLN. OR WORSTED MILL. Position wanted by man 42 years of age, American, married. Worked on all classes of wln. and worsted fabrics for men's and women's wear, overcoatings, auto cloths, etc. Familiar with all makes woolen and worsted machinery. Good recommendations. O. B. 655, Textile World, Boston, Mass.

WOOLEN MILL MANAGER OR SUPERINTENDENT. Position wanted by man 36 years of age, American, married. Worked on knitting, felting and woolen yarns. Good recommendations. O. B. 184, Textile World, Boston, Mass.

SUPERINTENDENT WOOLEN MILL—DESIGNER OR ASSISTANT SUPERINTENDENT. Position wanted by man 45 years of age, American, married. Worked on all kinds woolen and worsted goods. Familiar with all makes machinery. Good references. O. B. 265, Textile World, Boston, Mass.

SUPERINTENDENT OR OVERSEER ELASTIC OR NON-ELASTIC MILL. Position wanted by man 41 years of age, American. Worked on elastic and non-elastics, narrow and wide web, silk fancy braids, laces. Familiar with C. & K. looms, German and American braiders, finishing machines, covered rubber machines, warping and winding, etc. Good recommendations. O. B. 421, Textile World, Boston, Mass.

WOOLEN SUPERINTENDENT OR OVERSEER WEAVING. Position wanted by man 35 years of age, American, single. Worked on overcoatings, suitings, cloaking skirtings, trouserings and dress goods. Good references. O. B. 534, Textile World, Boston, Mass.

FOR SALE

Elastic Braid Plant as a running plant in Providence, R. I. New England Butt braiders in excellent condition. Also fair amount of stock.

Address, Adv. 442, Textile World,
334 Fourth Ave., New York

Position Wanted

Knitting Superintendent or General Superintendent

Position wanted by man 32 years of age, married, has had 15 years' experience in the practical manufacture of, Men's, Boys' and Ladies' underwear of all description, especially on Rayon also cotton. Can fix all makes of latch needle machines including stripers also experienced in cutting, designing and finishing any of the above lines. Can furnish best of reference.

Address Adv. 449, Textile World,
334 Fourth Avenue, New York.

Superintendent Worsted Yarn Mill (Bradford System)

39 years old, American, married. Spun all combs to 60s warp and knitting in gray, heather and all fancy mixtures. Familiar with carding and combing. Good references.

Address Adv. 448, Textile World
334 Fourth Ave., New York

Position Wanted

First class Scott & Williams "K" fixer with 8 years experience. At present employed but desires to make a change. American. Best of references, experienced on 200 needle machines. Willing to go anywhere.

Address Adv. 456, Textile World,
334 Fourth Ave., New York.

POSITION WANTED IN CANADA

Experienced Woolen Mule and Carding Overseer (Englishman) desires engagement (age 35).

Address Adv. 455, Textile World,
334 Fourth Ave., New York.

Mill Accountant, many years connected with prominent textile manufacturers; experienced in mill accounting, office management and production costs, desires connection. Address

S. H., P. O. Box 11,
Springfield, Mass.